BRIDGE CONTRACT No. B-7924

INDEX						
PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
I-70-3(68)77	I-70-77-2386	CONTINUOUS COMPOSITE STEEL BEAM	VARIES	PENN.CENTRAL AND DAKOTA ST.	295+75.46 ℄ I-70 & 10+00.00 DAKOTA ST.	B-7924

SHEET NO.	SHEET DESIGNATION	SUBJECT		B.P.R. APPROVAL
1		INDEX		
2	ROAD SHEET NO. 3	CROSS SECTION I-70	ROAD PROJECT I-70-3(79)77	
3	ROAD SHEET NO. 7	TYPICAL CROSS SECTION RAMP 10 E-W-A & RAMP 10 W-E-A		
4	ROAD SHEET NO. 19	PLAN STA. 290+45.97 TO STA. 305+00 (℄ I-70)		
5	ROAD SHEET NO. 27	PROFILE I-70 STA. 290+45.97 TO STA. 305+50		
6	ROAD SHEET NO. 30	PROFILE 10W-E-A STA. 291+99.11 TO STA. 307+89.50		
7	ROAD SHEET NO. 29	PROFILE 10E-W-A STA. 29?+39.82 TO STA. 307+38.81		
8	ROAD SHEET NO. 23	GRADING PLAN STA. 290+45.97 TO STA. 305+00 (℄ I-70)		
9	ROAD SHEET NO. 41	56" STORM SEWER PROFILE		
10-12	ROAD SHEET NO.36 ...	APPROACH DETAILS		
13-14	BRIDGE SHEETS	SOIL BORINGS		
15-16	S1 - S2	LAYOUT		
17-26	S3 - S12	GEOMETRICS		
27-28	S13 - S14	GENERAL PLAN		
29-30	S15 - S16	BENT 27 DETAILS		
31-32	S17 - S18	BENT 28 DETAILS		
33-34	S19 - S20	BENT 29 DETAILS		
35-36	S21 - S22	BENT 30 DETAILS		
37-38	S23 - S24	BENT 31 DETAILS		
39-40	S25 - S26	BENT 32 DETAILS		
41-43	S27 - S29	BENT 33 W.B. DETAILS		
44-45	S30 - S31	BENT 33 E.B. DETAILS		
46-48	S32 - S34	FRAMING PLAN		
49-62	S35 - S48	STRUCTURAL STEEL DETAILS		
63	S-49	TOOTH EXP JOINT @ BENT 29		
64-79	S-50 - S-65	SUPERSTRUCTURE DETAILS		
80-84	S-66 - S-70	SUPERSTRUCTURE DRAINAGE DETAILS		
85-97	S-71 - S-83	RETAINING WALL 1-A DETAILS		
98-101	S-84 - S-87	SUPERSTRUCTURE DETAILS		
102	SUMMARY			
101A	C1	RETAINING WALL 2-A GENERAL ARRANGEMENT		
101B	C2	RETAINING WALL 2-A DETAILS		
101C	C3	RETAINING WALL 2-A DETAILS		
101D	C4	RETAINING WALL 2-A DETAILS		
101E	C5	RETAINING WALL 2-A DETAILS		
101F	C6	RETAINING WALL 2-A DETAILS		
101G	C7	RETAINING WALL 2-A DETAILS		

STATE OF INDIANA

INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON

F.A. PROJECT NO. I-70-3

(44)77 P.E. PHASE I
(55)77 P.E. FINAL PHASE
(52)77 R/W
(65)77 CONSTRUCTION

I-70, RAMP 10W-E-A AND RAMP 10E-W-A OVER PENN.CENTRAL AND DAKOTA STREET

BEGINNING AT A POINT ON ℄ PROPOSED I-70 APPROXIMATELY 529.49 FT. WEST OF ITS INTERSECTION WITH ℄ EXISTING DAKOTA ST. AND EXTENDING EAST A DISTANCE OF APPROXIMATELY 610.72 FT. TO A POINT ON ℄ PROPOSED I-70 APPROXIMATELY 81.25 FT. EAST OF ITS INTERSECTION WITH ℄ EXISTING DAKOTA ST., ALL IN SECTION 11, T.15N., R.3E., CENTER TOWNSHIP, MARION COUNTY.

ROADWAY LENGTH: 0.065 MILES
BRIDGE LENGTH: 0.115 MILES
TOTAL LENGTH: 0.180 MILES

MAX. GRADE: -4.12%

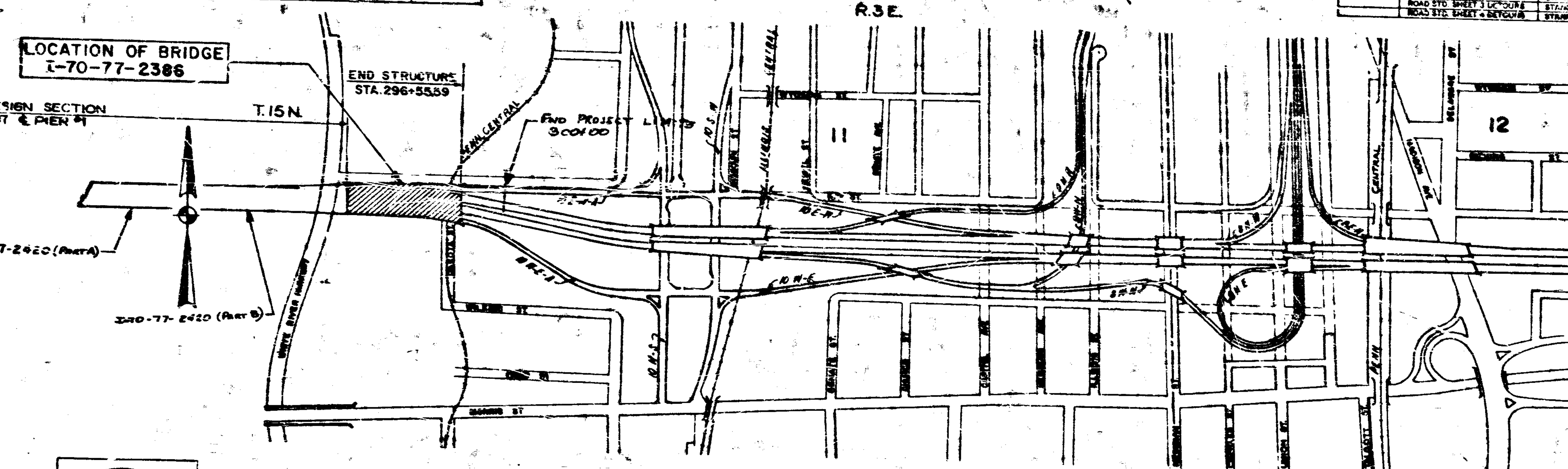
BRIDGES OVER 20' SPAN					
FED. ROAD REGION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)77	1970	1	118

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL	ADOPTED "R" REVISION
103	BRIDGE STD. C1	STANDARD MISCELLANEOUS DETAILS		
	BRIDGE STD. C2	STANDARD MISCELLANEOUS DETAILS	9-30-70	R-5-19-70
104	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS		
105	BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING	8-25-69	R-6-10-69
106	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS	8-8-70	R-2-2-70
107	BRIDGE STD. BR3	STEEL BRIDGE RAILING	8-21-70	R-2-2-70
108	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS	8-21-70	R-8-8-70
	BRIDGE STD. H6	CONT. STEEL BEAM—TYP. APPROACH DETAILS—TWIN STRUCTURES	8-31-70	R-8-8-70
	BRIDGE STD. H8	ST. BEAM & R.C. GIRDER—TYP. APPROACH DETAILS—TWIN STRUCTURES		
	BRIDGE STD. HS21	CONT. STEEL BEAM—TYP. APPROACH DETAILS—TWO-LANE STRUCTURES		
	BRIDGE STD. M1	MISCELLANEOUS APPROACH DETAILS		
	BRIDGE STD. M2	MISCELLANEOUS APPROACH DETAILS		
	BRIDGE STD. M4	R.C. BRIDGE APPROACH TURNOUT DETAILS—12'-6" SHOULDERS		
	BRIDGE STD. M5	SLOPE WALL DETAILS		
	BRIDGE STD. P2	STANDARD CONCRETE PILE DETAILS		
	BRIDGE STD. P8	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. P9	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
109	BRIDGE STD. R2A	BRIDGE LIGHTING DETAILS		
	BRIDGE STD. R4-F	STEEL RAILING (TYPE C)	8-30-69	R-8-30-69
110	BRIDGE STD. S1	MISCELLANEOUS DETAILS		R-8-1-70
	BRIDGE STD. S2	TYPICAL DETAILS FOR PLACING SPECIAL FILLING MATERIAL		
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
111	ROAD STD. SHEET CRC-A	STANDARD CONTINUOUS REINFORCING PAVEMENT		
112	ROAD STD. SHEET CRC-B	STANDARD CONTINUOUS REINFORCING PAVEMENT	[illegible]	[illegible]
113	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS	[illegible]	[illegible]
114	ROAD STD. SHEET M12	MISCELLANEOUS STANDARDS		[illegible]
115	ROAD STD. SHEET MH4	MISCELLANEOUS STANDARDS		[illegible]
116	ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS	8-21-69	R-10-15-69
117	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS	[illegible]	R-1-27-69
118	ROAD STD. SHEET MD 3	MISCELLANEOUS STANDARDS		R-10-1-70
	ROAD STD. SHEET MF	MISCELLANEOUS STRUCTURE STANDARDS	[illegible]	R-10-1-70
	ROAD STD. SHEET MG	MISCELLANEOUS STRUCTURE STANDARDS	6-11-69	R-9-1-69
	ROAD STD. SHEET MH	MISCELLANEOUS PRIVATE DRIVE STANDARDS		
118A	ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MJ	MISCELLANEOUS STANDARDS		R-8-1-70
118B	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS		
118C	ROAD STD. SHEET MM-1	MISCELLANEOUS STANDARDS	5-26-70	R-4-1-70
118 C	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS	5-26-70	R-4-1-70
118E	ROAD STD. SHEET MCH	MISCELLANEOUS STANDARDS		R-10-1-70
118F	ROAD STD. SHEET MD 2	MISCELLANEOUS STANDARDS		R-12-1-70
	ROAD STD. SHEET S	MISCELLANEOUS STANDARDS CENTER DITCH INLETS	2-21-69	R-10-15-69
	ROAD STD. SHEET S1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET M7	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD.	STANDARD STRUCTURE CONNECTIONS FOR EXTENSION		
	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS		
	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS—SK. END & WING DETAILS		
	ROAD STD.	STANDARD REINF. CONC. CULVERTS—SLAB TOP TYPE (W.F.)		
	ROAD STD.	STANDARD REINF. CONC. CULVERTS—SLAB TOP TYPE (U.F.)		
	ROAD STD. SHEET GR	STANDARD GUARD RAIL		
	ROAD STD. SHEET GR1	BEAM GUARD RAIL		
	ROAD STD.	STANDARD REINF. CONCRETE ARCH—12' SPAN		
	ROAD STD.	STANDARD HEADWALLS		
	ROAD STD.	STANDARD STRUCTURAL PLATE ARCH		
	ROAD STD.	CONCRETE WINGS FOR STD. STRUCTURAL PLATE ARCHES		
	ROAD STD.	STANDARDS FOR SUPER ELEVATION & WIDENING OF CURVES		
	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS		

Rev. 12-1-70 EJC Chk. 12-10-70 TCC
Rev. 1-14-71 J.J.W. Chk. 1-18-71 E.J.C.

1,15,16,41,48
57,61,62,69,66
69,70,72
102



TRAFFIC DATA	
A.D.T. (1965)	30,000 V.P.D.
A.D.T. (1967 PROJECTED)	70,000 V.P.D.
TRUCKS A.D.T. = 14% ;	D.H.V. = 7 %
DESIGN SPEED	50 M.P.H.
ACCESS CONTROL	FULL

THESE PLANS PREPARED BY
CHAS. W. COLE & SON
ENGINEERS
SOUTH BEND, INDIANA

FINAL PLANS SUBMITTED FOR APPROVAL JAN. 10, 1969

REGISTERED PROFESSIONAL ENGINEER
STATE OF INDIANA

CHAS. W. COLE, JR. REGISTERED No. 3686 STATE OF INDIANA PROFESSIONAL ENGINEER

INDIANA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS DATED 1969 TO BE USED WITH THESE PLANS.

PRELIMINARY PLANS SUBMITTED FOR APPROVAL DATE Dec. 24, 1968

H. W. LOCHNER, INC.
ENGINEERS
20 N. WACKER DR., CHICAGO, ILLINOIS

MARION COUNTY

DATE	SHEET NO.
REVISIONS	
12-1-70	1, 13, 15, 16, 27 thru 46, 48, 49 thur 54, 59, 60, 61, 63, 64, 65, 66, 69 thur 75, 79, 85 thur 97, 102, 103, 105, 106, 107, 108, 110, 116, 117; Added 118A, 118B, 118C, 118D, 118E, 118F
1-14-71	1, 15, 16, 41, 48, 59, 61, 62, 64, 66, 69, 70, 72, 102
12-19-69	1, Delete 111, 112, 113
12-19-69	103, 110
11-12-70	Project Designation Changed from I-70-3(70)77 to I-70-3(65)77
3-10-71	46, 55, 56, 64, 102
5-14-71	101A, 101B, 101C, 101D, 101E, 101F, 101G Added
7-2-71	56

REVIEWED
R. W. Bettge
ASSISTANT ENGINEER OF PLANS AND SPECIFICATIONS

RECOMMENDED FOR APPROVAL 11-4-69
M. G. Wukes
ASSISTANT ENGINEER OF PLANS AND SPECIFICATIONS

RECOMMEDED FOR APPROVAL 12-1-69
J. R. Melvin
ENGINEER OF PLANS AND SPECIFICATIONS
INDIANA STATE HIGHWAY COMMISSION

APPROVED 12-2-69
CHIEF ENGINEER INDIANA STATE HIGHWAY COMMISSION

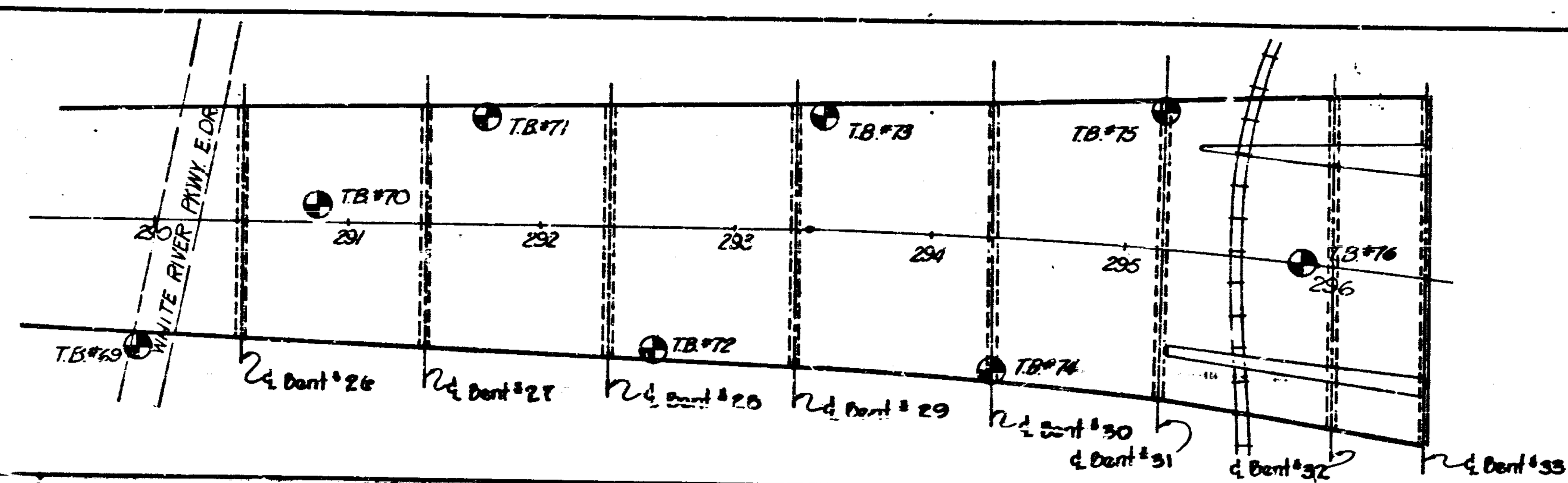
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:
DIVISION ENGINEER
DATE 1970

BRIDGE FILE: I-70-77-2386

H.W. LOCHNER, INC.

F.A. Road Reg. No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
4	IND	I-70-3(65)77	1970	13	118

BRIDGES OVER 20' SPAN



TB#69 — Station 289+76, Offset 69' Rt., Ground 697.0

Sample No.	El.	N
	697.0	
1	694.5	1
2	692.0	7
3	688.5	39
4	683.5	7
5	678.5	7
6	673.5	5
7	668.5	5
8	663.5	5
9	658.5	11
10	653.5	14
11	648.5	60
12	647	52

Description:
- Ground Level
- Brown moist to dry very loose to loose sandy LOAM, with GRAVEL, CINDERS, CANS, BRICKS & BLOCKS
- -dense at 5.0'
- -loose below 8.5'
- Brown moist soft sandy CLAY with BRICKS (fill)
- - Stiff at 33.5'
- Gray moist to wet medium dense fine SAND with a trace of GRAVEL
- Gray wet very dense SAND & GRAVEL
- Bottom of Test Boring
- Depth of Boring 50'

TB#70 — Station 290+84, Offset 9' Lt., Ground 699.5

Sample No.	El.	N
	699.5	
1	697.0	10
2	694.5	14
3	691.0	8
4	686.0	3
5	681.0	9
6	676.0	45
7	671.0	26
8	666.0	38
9	661.0	21
10	656.0	39
11	651.0	61
12	649.5	62

Description:
- Ground Level
- Brown moist loose to medium dense SANDY LOAM, CINDERS, BRICKS, WOOD, CEMENT and ORGANIC MATTER (fill)
- loose to very loose to loose 5.0-10.0'
- -loose at 13.5'
- -dense at 18.5'
- Brown moist medium dense to dense SAND & GRAVEL
- Brown moist medium dense fine SAND.
- Grey wet dense to very dense SAND with some GRAVEL
- Bottom of Test Boring
- Depth of Boring 50'

TB#71 — Station 291+72, Offset 58' Lt., Ground 702.2

Sample No.	El.	N
	702.2	
	699.7	
1	697.2	6
2	693.7	3
3	688.7	3
4	685.7	4
5	678.7	3
6	673.7	9
7	668.7	16
8	663.7	33
9	662.2	37

Description:
- Ground Level
- See Note "A"
- Brown moist very loose sandy LOAM
- Brown moist very soft to medium stiff sandy CLAY with a trace of GRAVEL
- Brown moist medium dense to dense fine SAND with a trace of GRAVEL
- Bottom of Test Boring
- Depth of Boring 40'

TB#72 — Station 292+59, Offset 66' Rt., Ground 701.0

Sample No.	El.	N
	701.0	
1	698.5	43
2	696.5	11
	696.0	
3	692.5	4
4	687.5	11
	686.5	
5	683.0	3
	682.5	
	677.0	
6	677.5	12
7	672.5	31
8	667.5	34
9	666.0	47

Description:
- Ground Level
- Black moist dense to medium dense CINDERS (fill)
- Brown moist very loose to medium dense sandy LOAN (fill)
- Black moist very loose Sandy LOAM (fill)
- Gray moist to wet medium dense Sandy LOAM (fill)
- Brown moist dense fine to coarse SAND & fine to medium GRAVEL
- Bottom of Test Boring
- Depth of Boring 35'

T.B.#73 — Station 293+57, Offset 61' Lt., Ground 703.5

Sample No.	El.	N
	703.5	
	701.0	
1	698.5	18
2	695.0	4
3	690.0	3
4	685.0	3
5	680.0	11
	677.0	
6	675.0	19
7	670.0	26
8	668.5	40

Description:
- Ground Level
- Brown moist medium dense to very loose sandy LOAM with BRICKS (fill)
- Black moist very loose sandy LOAM & CINDERS (fill)
- Black moist very loose silty LOAM & ORGANIC MATTER
- Brown moist stiff sandy CLAY with a trace of GRAVEL
- Gray moist medium dense SAND & GRAVEL
- dense at 33.5'
- Bottom of Test Boring
- Depth of Boring 35'

T.B.#75 — Station 295+18, Offset 73' Lt., Ground 704.7

Sample No.	El.	N
	704.7	
1	702.2	
	700.7	
2	698.7	4
	697.6	
3	696.2	12
4	691.2	26
5	686.3	27
6	681.2	36
7	676.2	47
8	671.2	48
9	666.2	49
	661.7	
10		62
	660.2	
11	656.2	44
12	654.7	60

Description:
- Ground Level
- Black moist very loose SAND & GRAVEL CINDERS & BRICKS (fill)
- See Note "B"
- Brown moist medium dense fine to coarse SAND & fine to medium GRAVEL with trace of coarse GRAVEL
- -dense below 18.5'
- -very dense at 38.5'
- Brown moist dense to very dense fine to medium SAND
- Bottom of Test Boring
- Depth of Boring 50'

T.B.#74 — Station 294+44, Offset 73' Rt., Ground 704.6

Sample No.	El.	N
	704.6	
1	702.5	
2	699.6	4
	697.6	
3	696.1	3
4	691.1	11
5	686.1	29
6	681.1	37
7	676.1	47
8	674.6	24

Description:
- Ground Level
- Black & Brown moist loose Cinders, GRAVEL & BRICKS (fill)
- -very loose at 5.0'
- Brown moist medium dense fine to coarse SAND with some fine to medium GRAVEL
- -dense to medium dense below 18.5'
- Bottom of Test Boring
- Depth of Boring 30'

T.B.#76 — Station 295+97, Offset On ℄, Ground 703.2

Sample No.	El.	N
	703.2	
	702.9	
	700.7	
1	698.2	2
	696.2	
2	694.7	6
3	689.7	27
4	684.7	33
5	679.7	77
6	674.7	38
7	673.2	37

Description:
- Ground Level
- BLACKTOP for 0.3'
- Black & brown moist very loose sandy LOAM (fill)
- See Note "C"
- Brown moist medium dense to dense fine to coarse SAND with some fine to medium GRAVEL.
- -very dense at 18.5'
- -dense below 23.5'
- Bottom of Test Boring
- Depth of Boring 30'

Elevations: 705, 700, 695, 690, 685, 680, 675, 670, 665, 660, 655, 650, 645

Note "A": Black moist loose SAND & GRAVEL & CINDERS (fill)

Note "B": Brownish grey & black moist medium dense sandy LOAM

Note "C": Brown wet to moist loose sandy LOAM

NOTES: N - Indicates the number of blows required to drive a 1½" I.D. 2" O.D. Split Spoon sampler 12" by means of a 140# weight falling 30"
See Art. 102.05 of the Specifications regarding test pit data.

Rev. 12-1-70 Notes

Rev. 12-1-70 EJC, Chk. 12-10-70 TCC

TEST BORING DATA

SCALE:- AS NOTED

JULY 3, 1969

PRELIMINARY PLANS SUBMITTED FOR APPROVAL: Karin Atlas DEC. 20, 1968

FINAL PLANS SUBMITTED FOR APPROVAL: Glenn Cole JULY 3, 1969

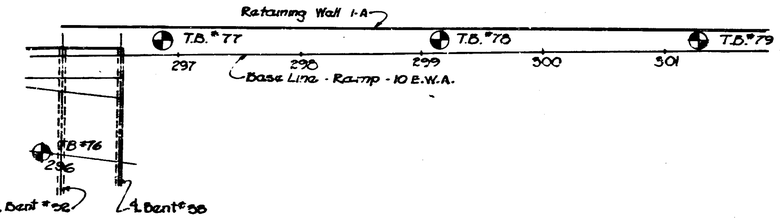
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.

PLAN: NOTE BOOK NO. — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED

PROFILE: NOTE BOOK NO. — SURVEYED — PLOTTED — GRADES CHECKED — B.M.S NOTED — STRUCTURE NOTATIONS CHK'D

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (64)77	1970	12	118



NOTE: FOR BORING LOCATIONS OF T.B. #80, T.B. #81 & T.B. #82 SEE SHEET No. 18.

BORING OR STATION OFFSET GROUND EL.

TB #77	TB #78	TB #79	TB #80 (Str. 2416)	TB #81 (Str. 2416)	TB #82 (Str. 2416)
296+88	299+16	301+28	304+54	305+92	306+32
11'Lt.	10'Lt.	9'Lt.	45'Lt.	45' Rt.	32'Lt.
702.5	702.5	700.5	698.2	694.1	694.8

Sample No.	El.	N	DESCRIPTION
	702.5		Ground Level
	701.5		BRICK Sidewalk (Fill)
1	700.0	12	Brown moist stiff sandy CLAY with a trace of GRAVEL
2	697.5	3	very soft at 5'
	696.5		
3	694.0	49	Brown moist dense SAND & GRAVEL
4	689.0	29	Brown moist medium dense fine SAND with a trace of GRAVEL
5	684.0	32	
6	679.0	28	Brown moist very dense to medium dense SAND & GRAVEL -dense at 28.5'
7	674.0	45	
	673.5		Bottom of Test Boring

Note 'A': BRICK Sidewalk (GRAVEL Fill)

Sample No.	El.	N	DESCRIPTION
	702.5		Ground Level
	701.5		See Note 'A'
1	700.0	5	Brown moist soft silty CLAY
2	697.5	5	
3	694.0	15	Brown moist soft sandy CLAY
4	689.0	48	Brown moist medium dense SAND & GRAVEL -dense below 18.5'
5	684.0	49	
6	679.0	40	
7	674.0	34	
	672.5		Bottom of Test Boring

Note 'B': Black moist stiff to very stiff silty LOAM with some ORGANIC matter. TOPSOIL for 0.5'

Note 'C': Brown moist medium dense SAND & GRAVEL with CINDERS (Fill)

Sample No.	El.	N	DESCRIPTION
	700.5		Ground Level
	699.5		See Note 'B'
1	698.0	13	
2	695.5	20	See Note 'C'
3	692.0	19	
4	687.0	24	Brown moist medium dense SAND & GRAVEL - very dense below 13.5'
5	682.0	55	
6	677.0	106	5% for 2'6"
7	672.0		
8	670.5	63	
			Bottom of Test Boring

Note 'D': Black moist loose CINDERS & SAND (Fill).

Note 'E': Brown moist very loose fine to coarse SAND with some fine GRAVEL.

Note 'F': Brown moist dense fine to coarse SAND & fine to medium GRAVEL.

Sample No.	El.	N	DESCRIPTION
	698.2		
	698.2		Ground Level
1	696.0	12	See Note 'D'
	695.7		
2	693.7	3	Brown moist medium dense sandy LOAM
	693.7		
3	690.0	13	See Note 'E'
	688.7		
4	684.7	45	Brown moist medium dense fine to coarse sand with trace of fine GRAVEL
	684.2		
	684.2		See Note 'F'
5	679.7	21	
6	674.7	48	Brown moist medium dense to dense fine to medium SAND with trace of fine GRAVEL
7	669.7	37	
	668.2		
			Bottom of Test Boring

Note 'G': Brown moist loose sandy LOAM.

Note 'H': Brown moist dense fine SAND with a trace of GRAVEL

Sample No.	El.	N	DESCRIPTION
	694.1		Ground Level
	693.1		
1	691.6	32	BRICK Sidewalk (GRAVEL Fill)
2	689.1	43	
3	686.6	43	Brown moist dense SAND & GRAVEL
4	681.6	41	
5	675.6	28	
6	670.6	49	Brown moist medium dense fine SAND
7	665.6	37	Brown moist dense SAND & GRAVEL
	664.1		
			Bottom of Test Boring

Sample No.	El.	N	DESCRIPTION
	694.8		
	694.8		Ground Level
	693.3		See Note 'G'
1	692.5	9	
2	689.8	21	Brown moist medium dense fine SAND with some GRAVEL
3	686.3	19	
4	681.3	35	Brown moist dense to medium dense SAND & GRAVEL
5	676.3	30	
6	671.3	23	Brown moist medium dense fine SAND with a trace of GRAVEL
7	666.3	48	Brown moist dense SAND & GRAVEL
8	661.3	31	See Note 'H'
			Bottom of Test Boring

700 695 690 685 680 675 670 665 660 655 650 645

TEST BORING DATA

SCALE:-AS NOTED

JULY 3, 1969

PRELIMINARY PLANS SUBMITTED FOR APPROVAL: DEC. 20, 1965

FINAL PLANS SUBMITTED FOR APPROVAL: JULY 3, 1969

PROJECT:-I-70-3(64)77

BRIDGE CONTRACT NO. B-7924

BRIDGE FILE:-I-70-77-2396

CHAS. W. COLE JR. REGISTERED No. 3683 STATE OF INDIANA PROFESSIONAL ENGINEER

KENNETH A. HOLT No. 8112 INDIANA REGISTERED PROFESSIONAL ENGINEER

H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILL.

PLAN: SURVEYED, PLOTTED, NOTE BOOK, NO., DATE, BY, REVISIONS (SHOW TIME CHKD.), SCALE CHECKED, PLOTTED, BY & NOTES, AUTHORITY OF WAY CHECKED

PROFILE: SURVEYED, PLOTTED, NOTE BOOK, NO., DATE, BY, REVISIONS (SHOW TIME CHKD.), SCALE CHECKED, PLOTTED, BY & NOTES, AUTHORITY OF WAY CHECKED

N.E. Cor. Large Conc. Hdwl. & Rct. Wall Down 1.0 From Top

S.E. Cor of Large Conc. Hdwl. & Rct. Wall Down 0.5' From Top

S.W. Flange of 13 Th. Steel H.E. Post N of S. Gate To Holliday Steel Corp. Warehouse.

(P.K.N.)

STATION D-25
621934. 12 N
357860. 71 E

Str. No. 21 (+51.97; 23.75 Lt)
Type E-7 Inlet with 50 Lin. Ft. 12" ϕ F.B.C.C.S. Pipe (Connect to Str. No. 20)

903+44.01 I-70 Back
=290+45.91 I-70 Ahead

Nail & Cap in PWP No. 112-564 A up 2' From Ground

Nail & Cap in 3rd. Wood Guard Post E. of Cor. Post - 0.2' Down From Top

Nail & Cap in 5th Wood Guard Post S. of Cor Post - at Bottom

(P.K.N.)

STATION D-21
621347. 59 N
357841. 78 E

Nail & Cap in Cor. Wood F.P.

Drive to INLAND CONTAINER CORP

(Parking Lot)

Nail & Cap in Cor. Wood Guard Rail Posts

(P.K.N.)

STATION D-20
620759.91 N
357685.21 E

PXI Sta. 294+44.91 (Ramp 10 E-W-A)
Elev. 732.43
L.V.C. 210.18'

Str. No. 439 80'-0" Lt
Remove 200 Lin. Ft Existing 20" V.C. Sewer & Replace with 21" E.S.V.C. Pipe w. Class "B" Bedding conn. to existing 20" V.C. pipe.

Str. No 19 (+33.97) 25.17 Lt
Type E-7 Inlet with 20 Lin Ft. 12" ϕ F.B.C.C.S. Pipe (Connect to 96" Storm Sewer)

Str. No 20 (+48.97; 24 Rt
Type E-7 Inlet with 25 Lin. Ft. 12" ϕ F.B.C.C.S. Pipe Connected to Str. No. 22

Str. No 18 (+33.97; 68.83 Rt)
Type E-7 Inlet with 35 Lin. Ft 12" ϕ FBCCS Pipe (Connect to 96" ϕ Storm Sewer

Str. N° 22 (+36; 35' Rt.)
Type G Manhole with 600' of 96ϕ R.C. Pipe, Class III Reqd (Connect to Str. N° 23)

SITUATION PLAN

Existing 20" V.C. Sanitary Sewer

Point of Arrow Top of Fire Hyd.

Nail & Cap in PWP No. 112-564 A N.W. Cor. Conc. Blk. Bldg. & Ground

(P.K.N.)

STATION D-22
621343. 41 N
357909. 46 E

BRIDGES OVER 20' SPAN

PUB. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	15	118

Earthwork Summary

Fill + 20%	40,700 c.y.
Surplus Foundation Excavation	4,715 c.y.
Borrow	36,085 c.y.
"B" Borrow + 25%	15,215 c.y.

✦ Includes 2965 C.Y. for backfill for 96ϕ Pipe

Gas Line Citizens Gas & Coke
2020 N. Meridian St.
Indianapolis, Indiana

Power Lines Indianapolis Power & Light
25 Monument Circle
Indianapolis, Indiana

Telephone Lines & Cables
Indiana Bell Telephone Co.
240 N. Meridian St.
Indianapolis, Indiana

Water Lines Indianapolis Water Co.
101 S. Meridian St.
Indianapolis, Indiana

Sewers Indianapolis Sanitary District
2541 City-County Building
Indianapolis, Indiana 46204

LAYOUT

I-70 OVER PENN. CENTRAL & DAKOTA ST.

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED

JULY 3, 1969

SUBMITTED FOR APPROVAL: Edward Cole

DRAWING:- S1 OF S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

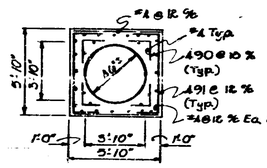
CHAS. W. COLE JR. REGISTERED No. 3683 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED ____ CK'D ____
DRAWN OLB CK'D CEL
TRACED ____ CK'D ____

Rev. 12-1-70 Bent "B" Borrow

Rev. 1-14-71 Sta 22

Rev. 12-1-70 Ext. 18-20-70 TEC



TYP. ENCASEMENT SECTION

(FOR 30" BRICK SEWER)

Cost of Reinforcing Bars included in cost of Lineal Feet of encasement of 30" Brick Sewer:

490 x 2'-6" 491 x 7'-0"

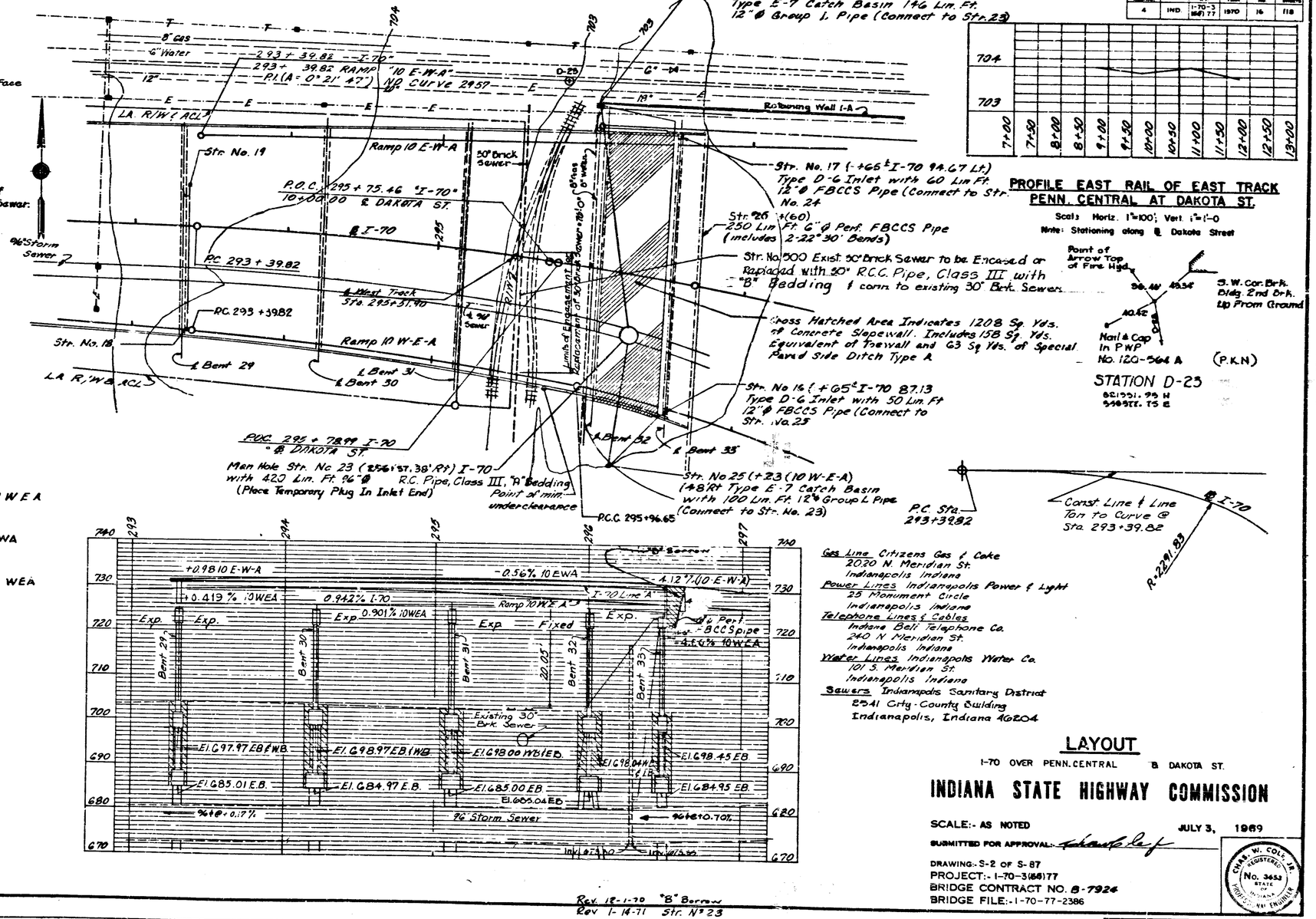
PVI Sta. 293+99.5± Ramp 10 W E A
Elev. = 729.56
L = 400.9'

PVI Sta 296+50 Ramp 10 EWA
Elev. = 731.28
L = 200'

PVI Sta. 297+71.80 Ramp 10 WEA
Elev. = 726.21
L = 343.60

PVI Sta. 295+50 (I-70)
Elev. = 733.60
L = 650'

Rev. 12-1-70 Rev. 1-14-71 D.L.W.



BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (56) 77	1970	16	118

PROFILE EAST RAIL OF EAST TRACK PENN. CENTRAL AT DAKOTA ST.

Scale: Horiz. 1"=100'; Vert. 1"=1'-0

Note: Stationing along ℄ Dakota Street

STATION D-25
621991.95 N
538511.75 E

Gas Line Citizens Gas & Coke
2020 N. Meridian St.
Indianapolis Indiana

Power Lines Indianapolis Power & Light
25 Monument Circle
Indianapolis Indiana

Telephone Lines & Cables
Indiana Bell Telephone Co.
240 N Meridian St.
Indianapolis Indiana

Water Lines Indianapolis Water Co.
101 S. Meridian St.
Indianapolis Indiana

Sewers Indianapolis Sanitary District
2541 City-County Building
Indianapolis, Indiana 46204

LAYOUT

I-70 OVER PENN. CENTRAL & DAKOTA ST.

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

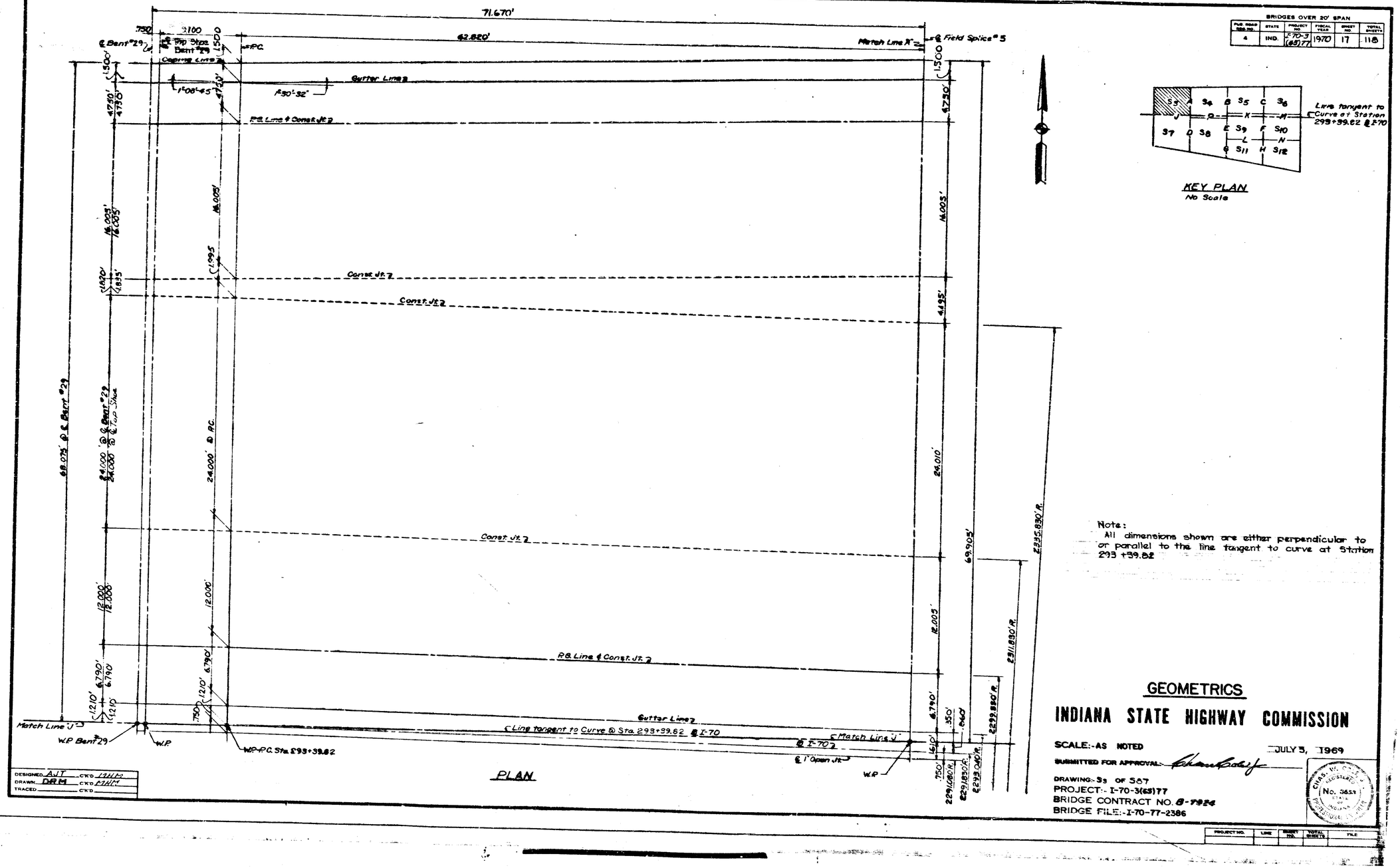
DRAWING:- S-2 OF S-87
PROJECT:- I-70-3(56)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

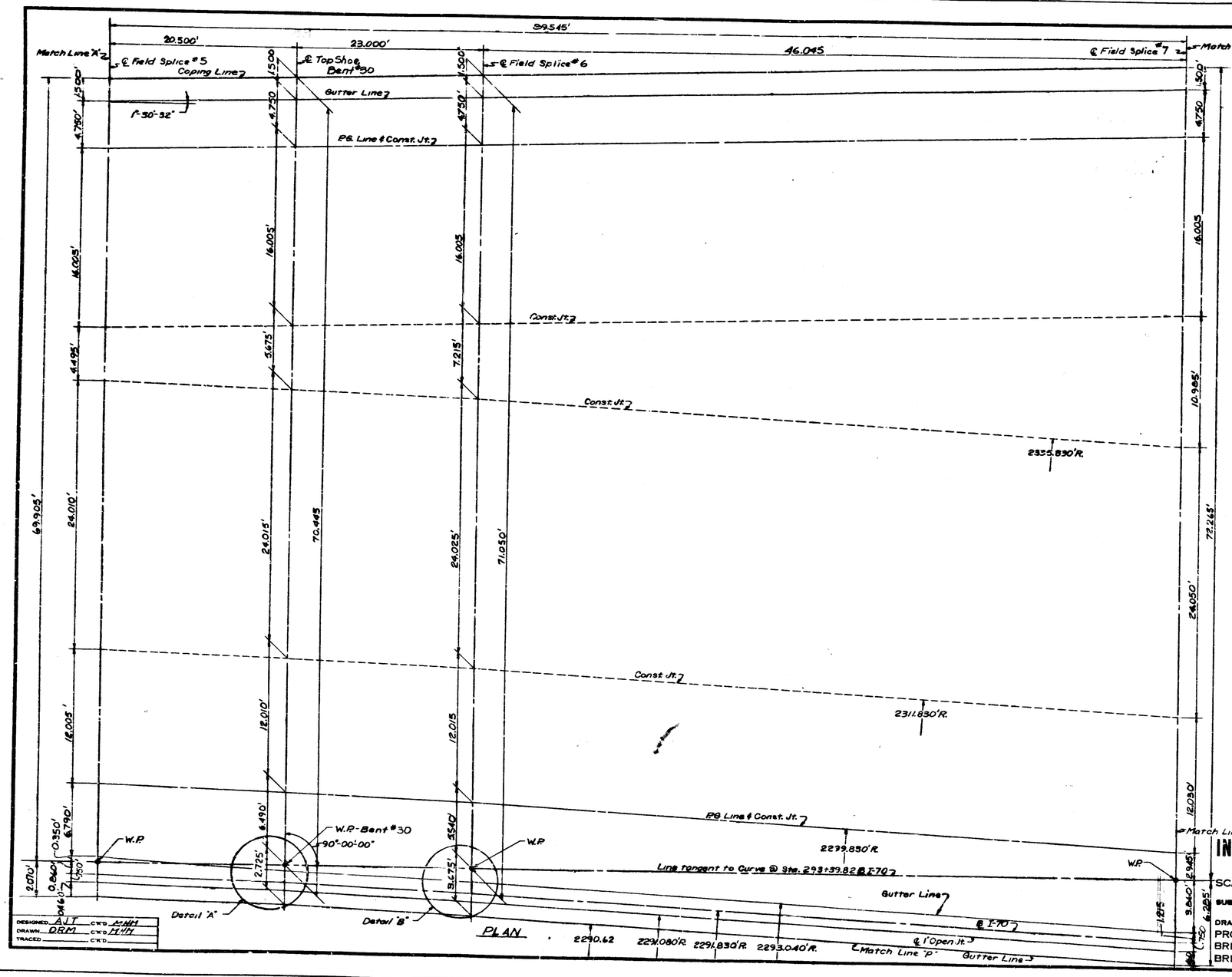
CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED ____ C'K'D ____
DRAWN DLB C'K'D CEL
TRACED ____ C'K'D ____

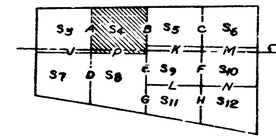
Rev. 12-1-70 "B" Borrow
Rev 1-14-71 Str. No 23

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

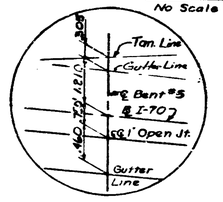

71.670'
750
3100
62.820'
1500
Match Line N°2
℄ Field Splice N° 5
℄ Bent N°29
Top Slope Bent N°29
Coping Line
PC.
Gutter Line
1°08'45"
A 30°32'
PG Line & Const. Jt. 2
Const. Jt. 2
Gutter Line
℄ Line tangent to Curve @ Sta. 293+39.82 ℄ I-70
℄ I-70
℄ Match Line J
℄ 1° Open Jt.
W.P. Bent 29
W.P.
W.P.-P.C. Sta. 293+39.82
W.P.
PLAN
Line tangent to Curve at Station 293+39.82 ℄ I-70
KEY PLAN
No Scale
BRIDGES OVER 20' SPAN
PUB. ROAD SERIAL NO. 4
STATE IND.
PROJECT NO. I-70-3 (65)77
FISCAL YEAR 1970
SHEET NO. 17
TOTAL SHEETS 118
Note:
All dimensions shown are either perpendicular to or parallel to the line tangent to curve at Station 293 +39.82
GEOMETRICS
INDIANA STATE HIGHWAY COMMISSION
SCALE:- AS NOTED
JULY 5, 1969
SUBMITTED FOR APPROVAL:
DRAWING:- S3 OF 567
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386
DESIGNED A.J.T. CK'D
DRAWN D.R.M. CK'D
TRACED CK'D
PROJECT NO.
LINE
SHEET NO.
TOTAL SHEETS
FILE



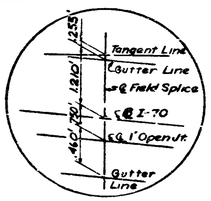
BRIDGES OVER 20' SPAN					
FUR. ROAD SEELYE	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (66) 77	1970	18	118



KEY PLAN
No Scale



DETAIL 'A'



DETAIL 'B'

Note:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta. 293+39.82

GEOMETRICS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED JULY 3, 1969

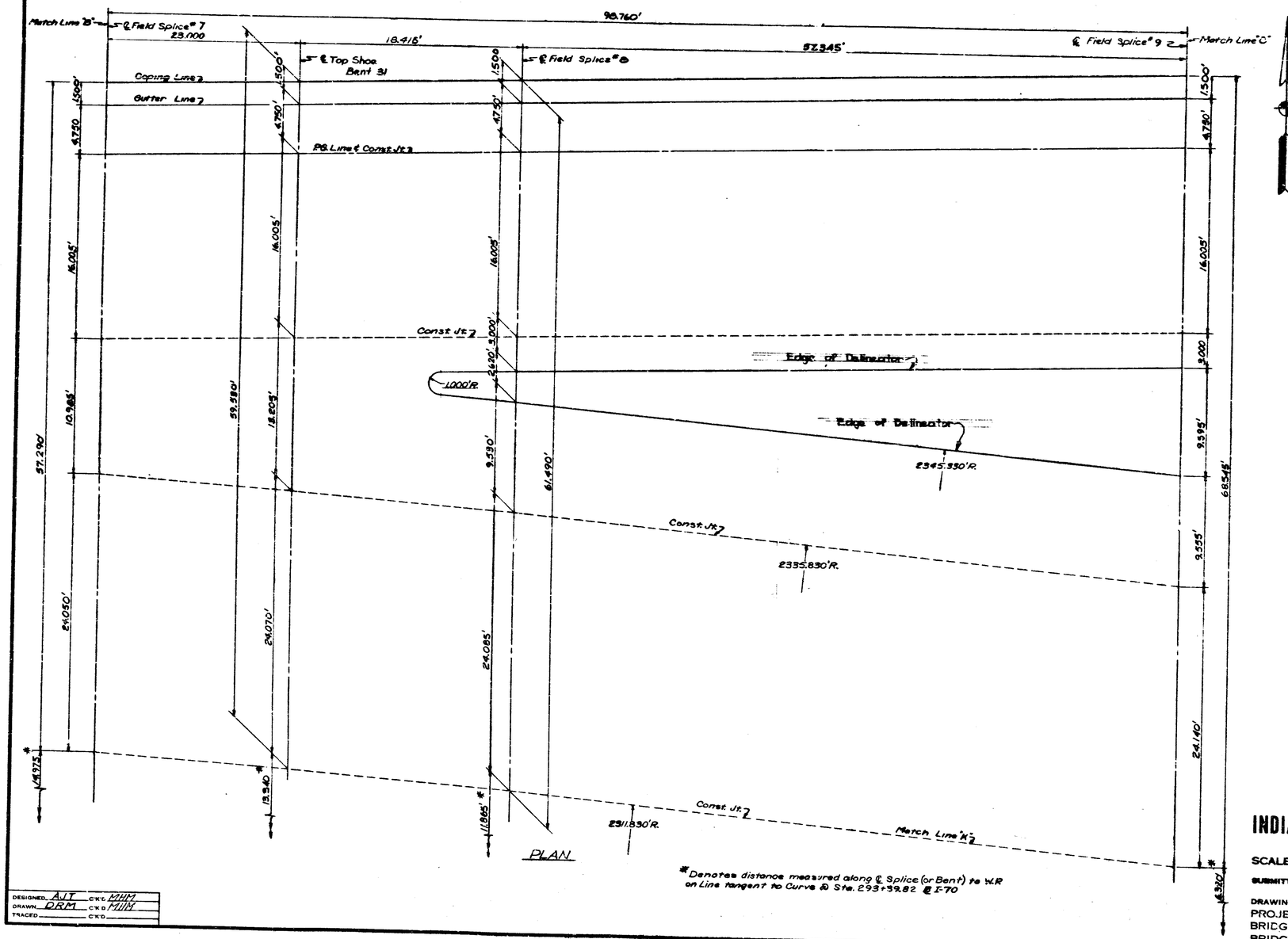
SUBMITTED FOR APPROVAL: [signature]

DRAWING: 34 OF 587
PROJECT:- I-70-3(66)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

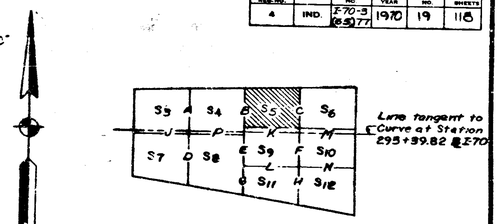
DESIGNED AJT C'K'D JOHN
DRAWN DRM C'K'D HHH
TRACED C'K'D

CHAS. M. COLE No. 3653 STATE PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



* Denotes distance measured along ℄ Splice (or Bent) to W.R on Line tangent to Curve @ Sta. 293+39.82 @ I-70



KEY PLAN
No Scale

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	19	118

Note:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta. 293+39.82

GEOMETRICS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED — JULY 3, 1969

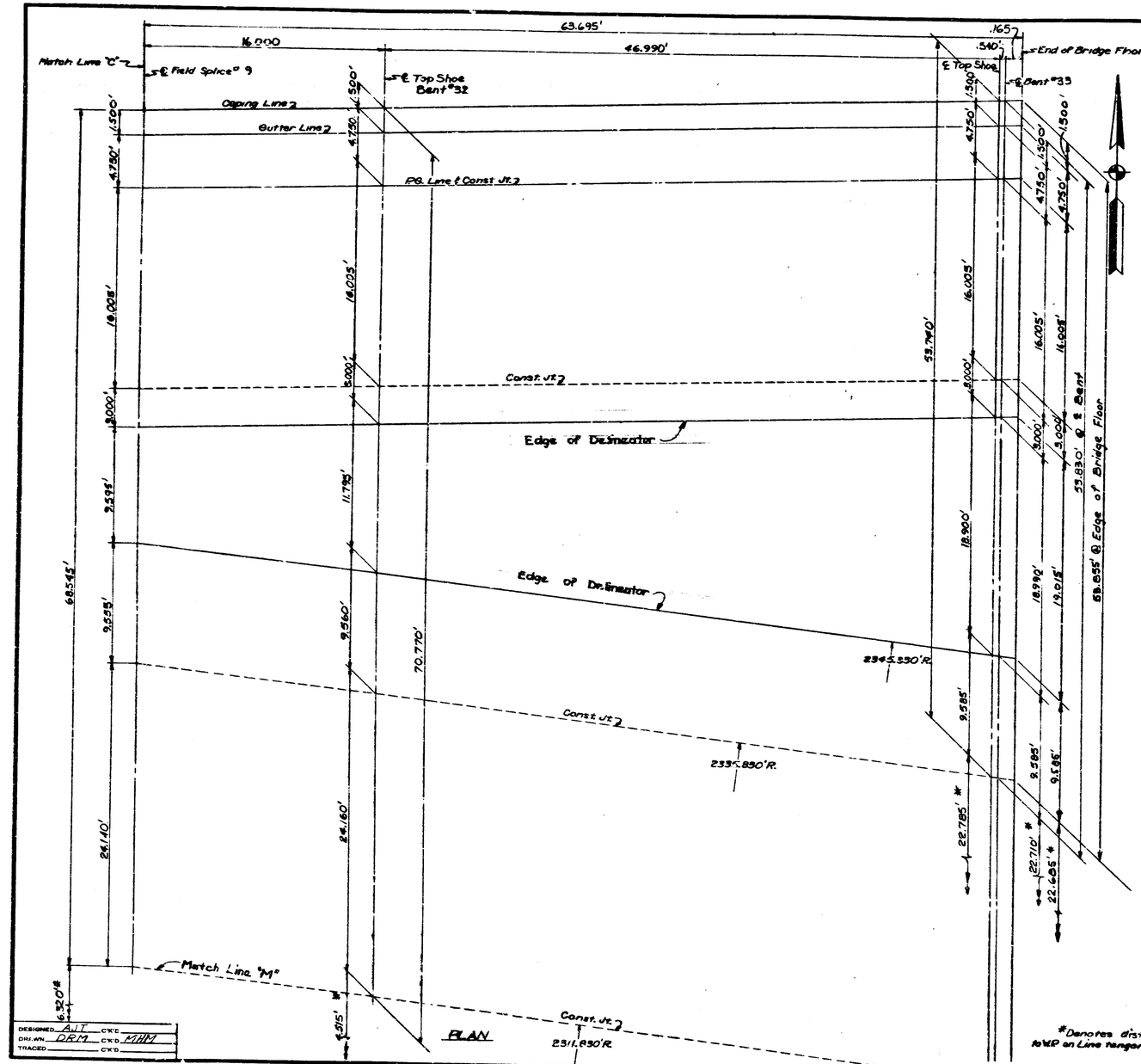
SUBMITTED FOR APPROVAL:

DRAWING:- 35 OF 567
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2306

CHAS. W. COLE, REGISTERED, No. 3652, STATE OF INDIANA, PROFESSIONAL ENGINEER

DESIGNED AJT C'K'D MHM
DRAWN ORM C'K'D MHM
TRACED C'K'D

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



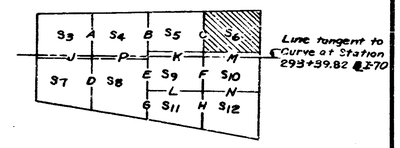
PLAN

*Denotes distance measured along ℄ Splice for Bent to WP on Line tangent to Curve @ Sta. 293+39.82 @ I-70

DESIGNED AJT C'K'D
DRAWN DRM C'K'D MHM
TRACED C'K'D

BRIDGES OVER 20' SPAN

PUB. ROAD RTE. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(68)77	1970	20	118



KEY PLAN
No Scale

Note:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta. 293+39.82

GEOMETRICS

INDIANA STATE HIGHWAY COMMISSION

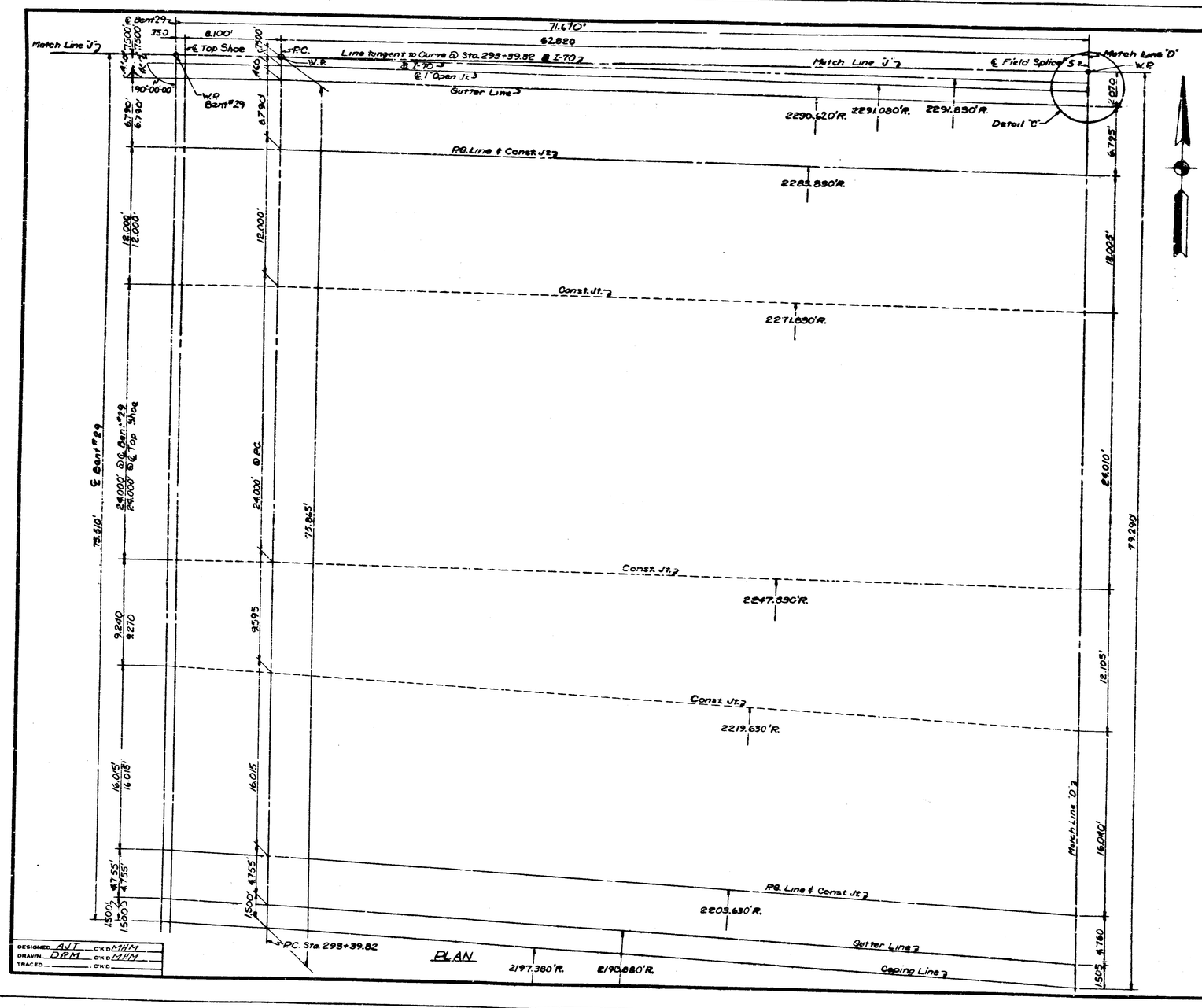
SCALE:- AS NOTED JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S6 OF S87
PROJECT:- I-70-3(68)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

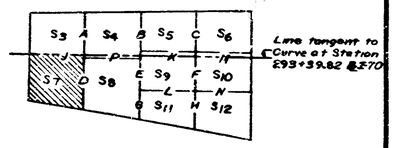
CLAIR W. CCLE JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

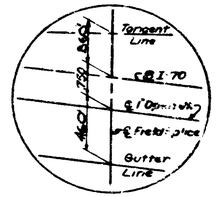


BRIDGES OVER 20' SPAN

FED. ROAD PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (69)77	1970	21	118



KEY PLAN
No Scale



DETAIL 'C'

Note:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta 293+39.82

GEOMETRICS

INDIANA STATE HIGHWAY COMMISSION

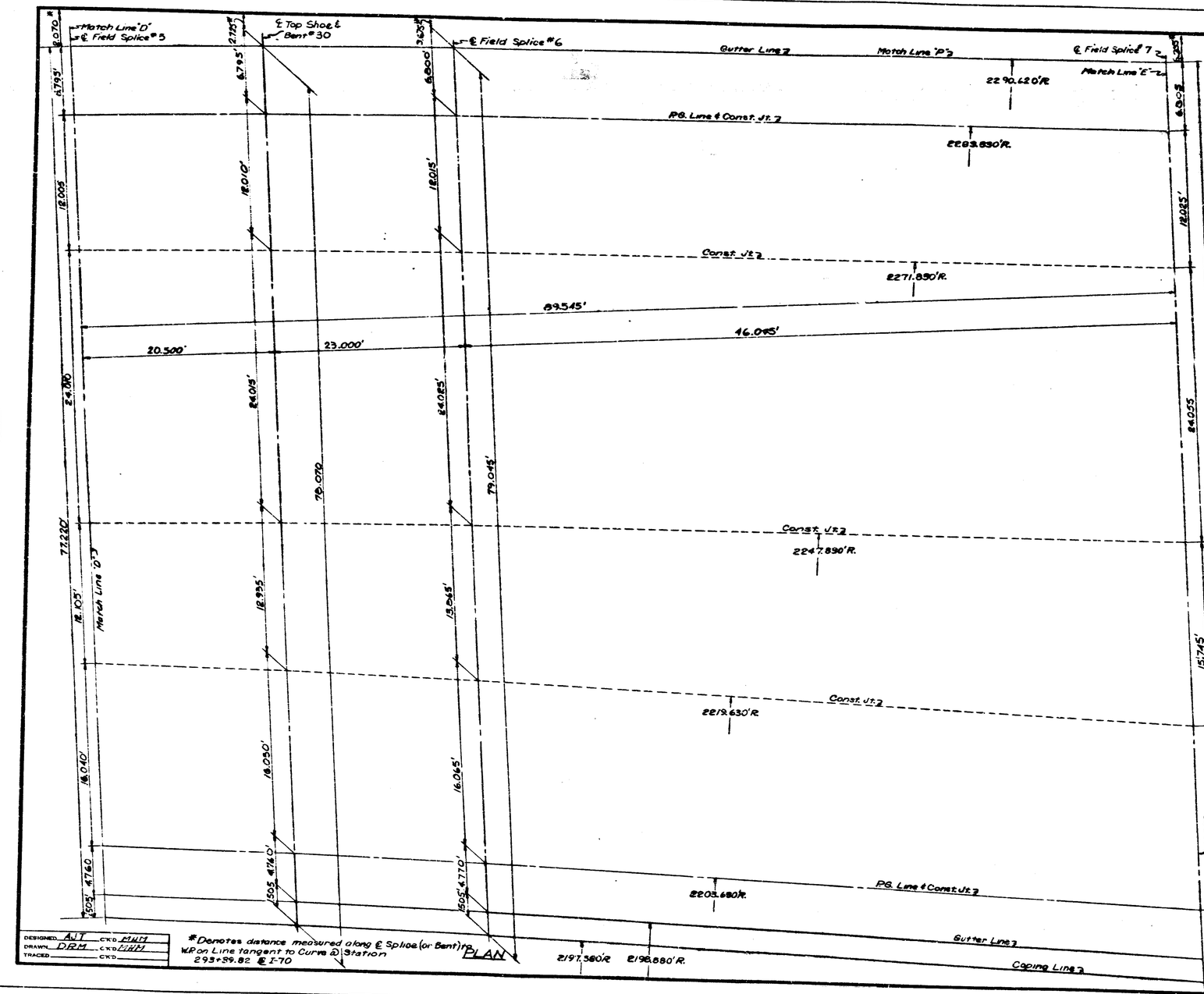
SCALE:- AS NOTED JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S7 OF 587
PROJECT:- I-70-3(69)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

GLEN W. CRIST REGISTERED No. 3653 PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

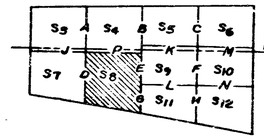


* Denotes distance measured along ℄ Splice (or Bent) to W.P. on Line tangent to Curve @ Station 293+39.82 ℄ I-70

DESIGNED ANT CK'D FWM
DRAWN DRM CK'D DRM
TRACED CK'D

BRIDGES OVER 20' SPAN

PUB. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	22	118



Line tangent to ℄ Curve at Station 293+39.82 ℄ I-70

KEY PLAN
No Scale

Notes:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Station 293+39.82

GEOMETRICS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED

JULY 3, 1969

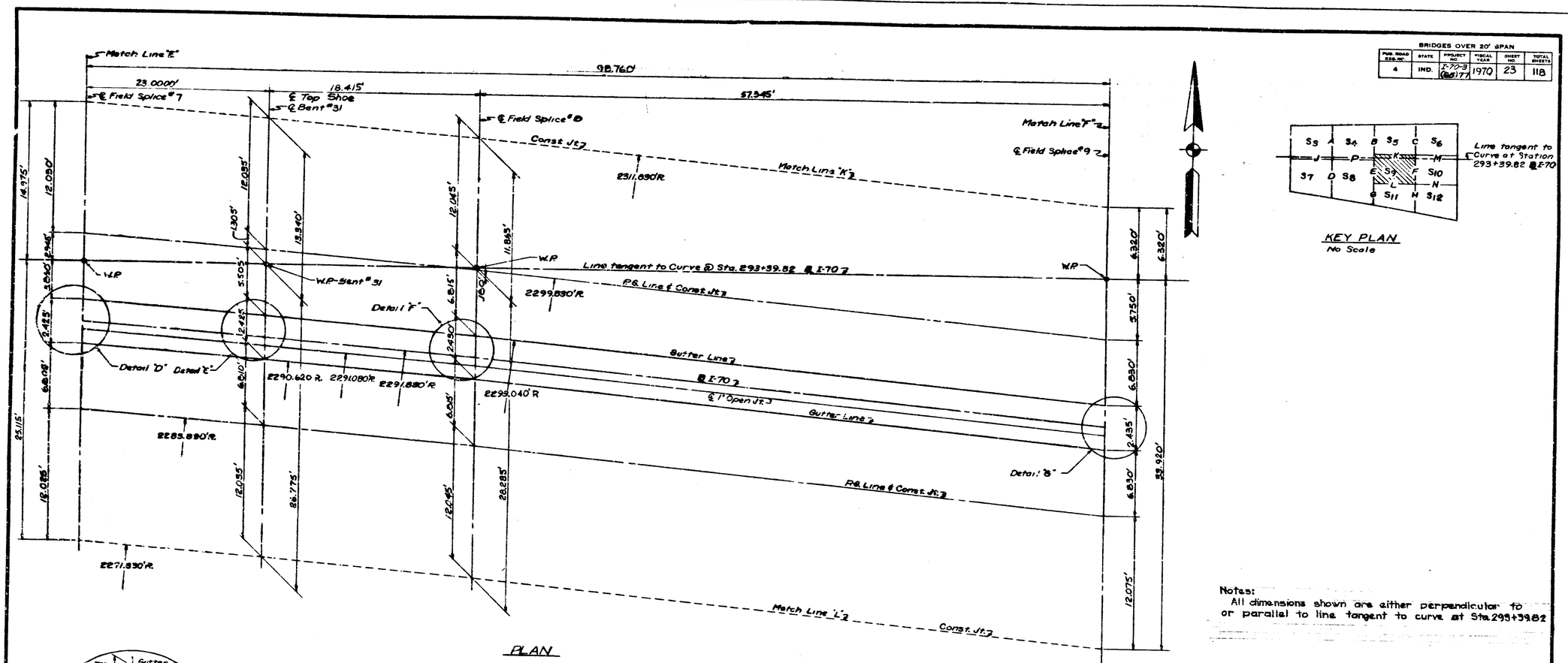
SUBMITTED FOR APPROVAL:

DRAWING:- S8 OF S 87
PROJECT:- I-70-368 77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

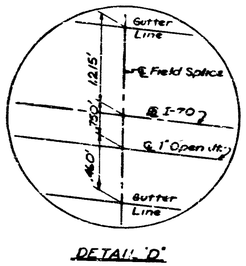
CHAS. H. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	INDEX NO.	TOTAL SHEETS	FILE

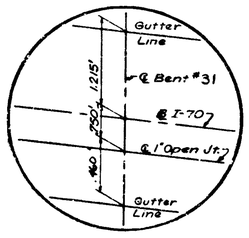
BRIDGES OVER 20' SPAN					
FED. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	23	118



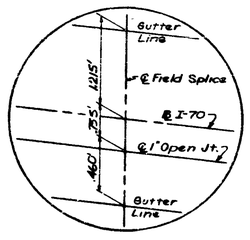
PLAN



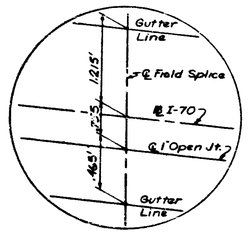
DETAIL 'D'



DETAIL 'E'



DETAIL 'F'



DETAIL 'G'

DES. AVT CK'D MHM
DRWN. DRM CK'D MHM
TRACED ____ CK'D ____

GEOMETRICS
INDIANA STATE HIGHWAY COMMISSION

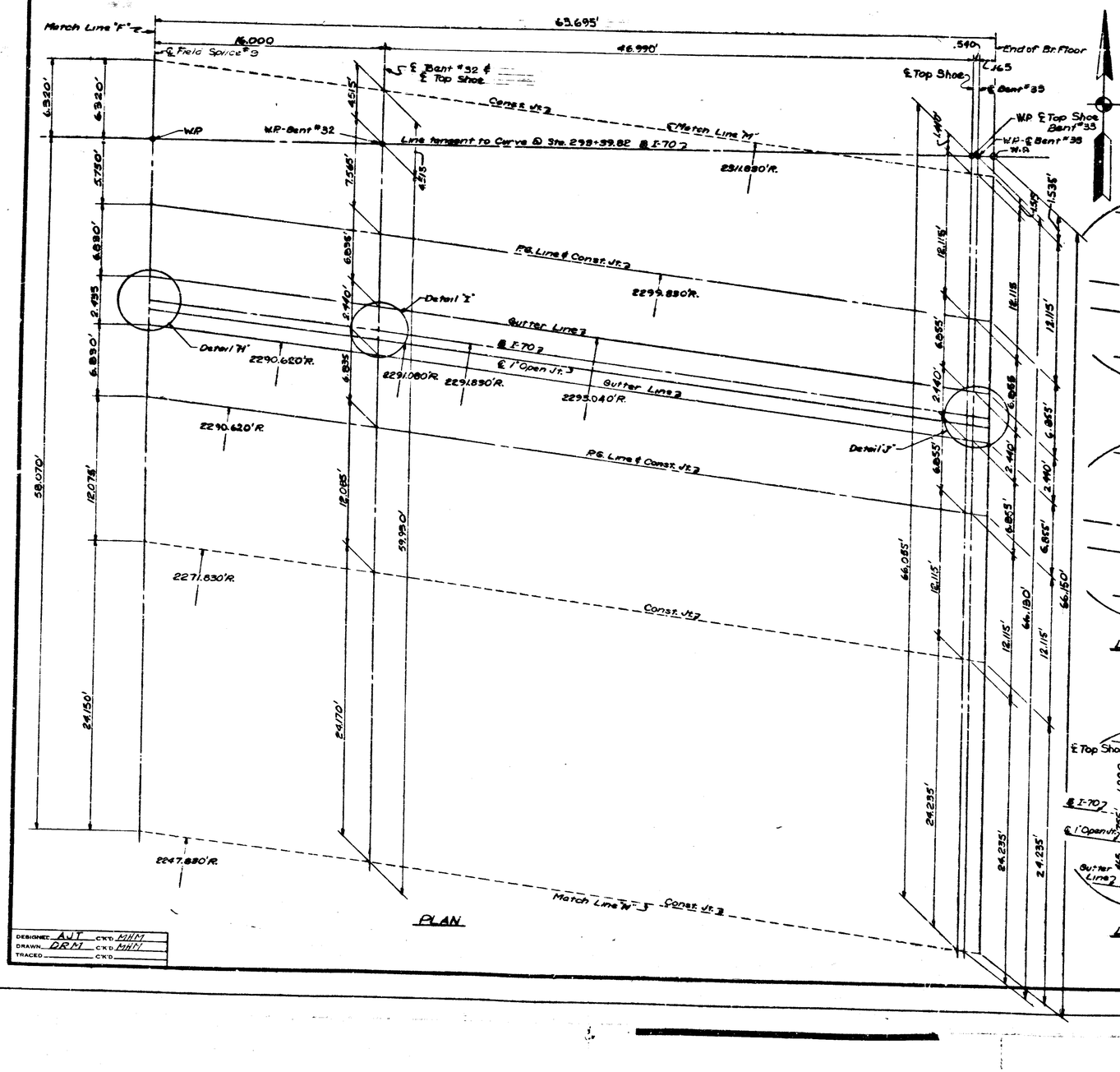
SCALE:- AS NOTED — JULY 5, 1969

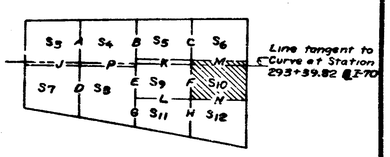
SUBMITTED FOR APPROVAL:

DRAWING:- 69 OF 567
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	24	118





KEY PLAN
No Scale

Note:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta. 293+39.82

GEOMETRICS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED — JULY 5, 1969

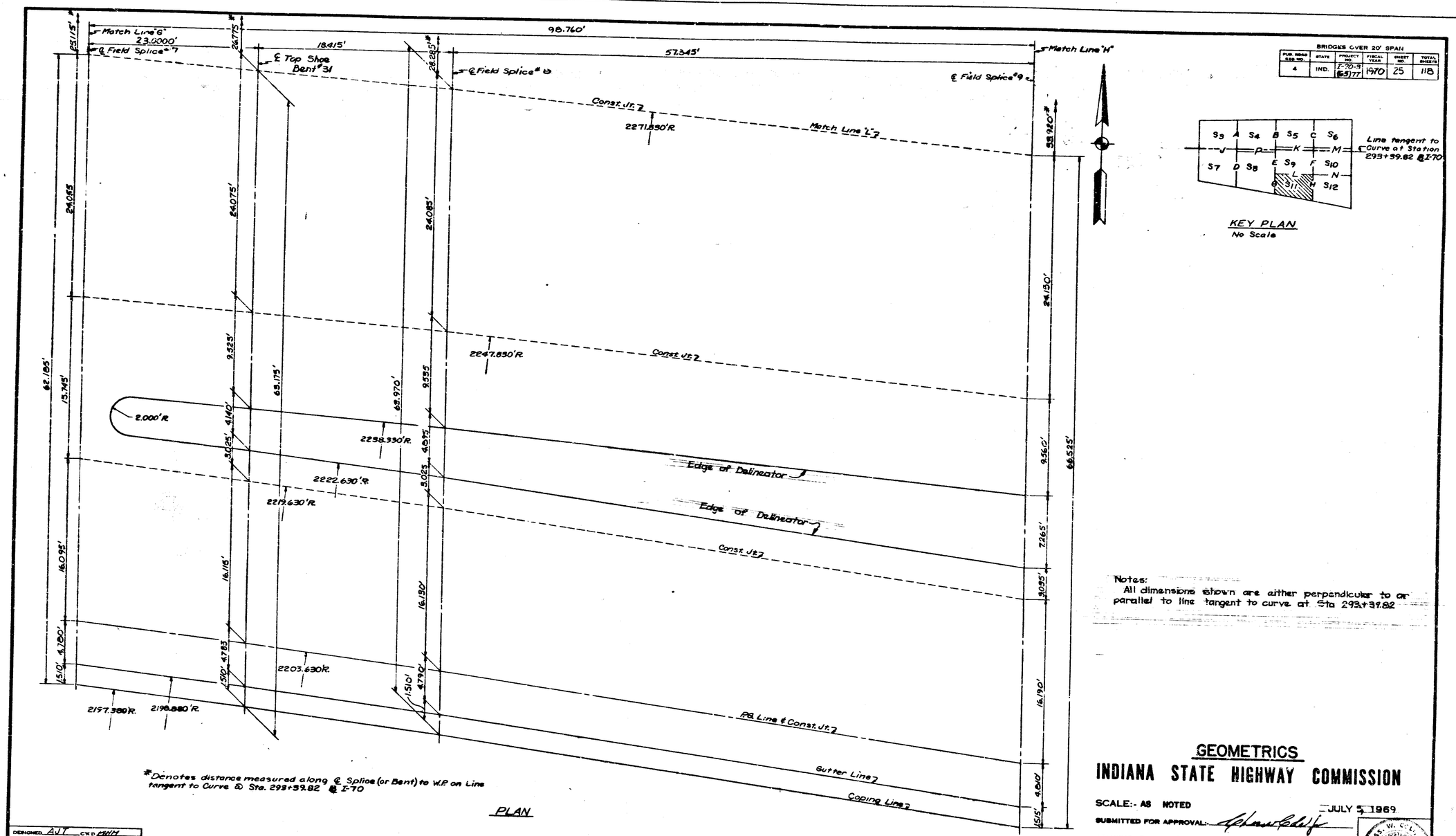
SUBMITTED FOR APPROVAL:

DRAWING:- S10 OF S 67
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE — REGISTERED — No. 3653 — STATE OF INDIANA — PROFESSIONAL ENGINEER

DESIGNED: AJT CK'D MHM
DRAWN: DRM CK'D MHM
TRACED — CK'D

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



*Denotes distance measured along ℄ Splice (or Bent) to W.P. on Line tangent to Curve ⑤ Sta. 293+39.82 ℄ I-70

PLAN

BRIDGES OVER 20' SPAN

PUR. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (68)77	1970	25	118

KEY PLAN
No Scale

Notes:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta 293+39.82

DESIGNED AJT CKD MHM
DRAWN DRM CKD MHM
TRACED ____ CKD ____

GEOMETRICS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED JULY 5 1969

SUBMITTED FOR APPROVAL: _____

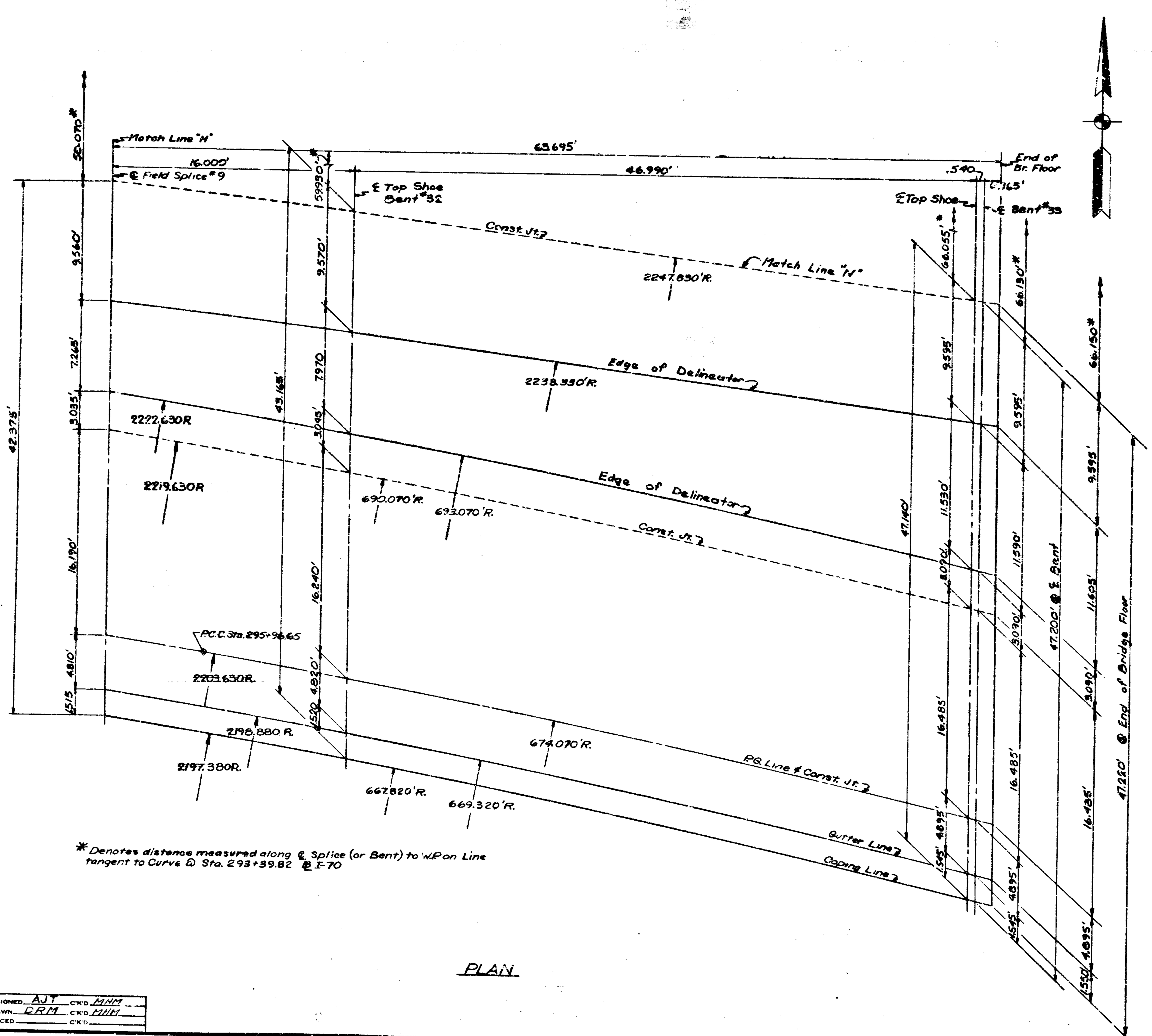
DRAWING:- 311 OF 387
PROJECT:- I-70-3(68)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. CLARK REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	PR. E

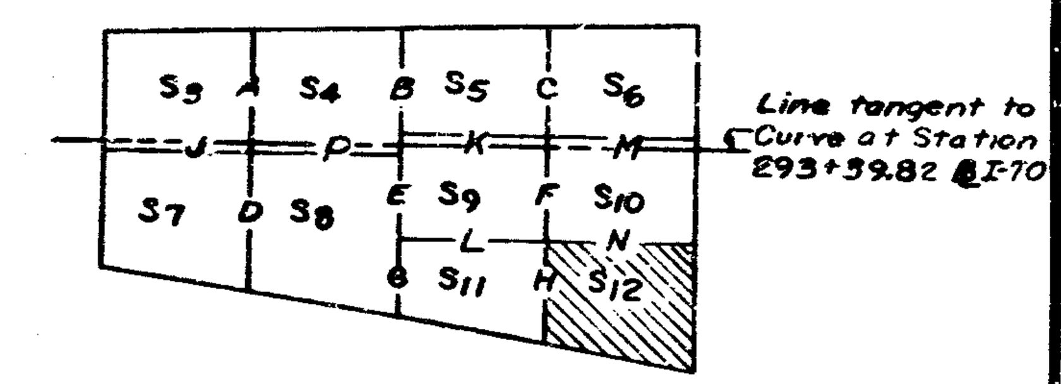
BRIDGES OVER 20' SPAN

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	26	118



* Denotes distance measured along ℄ Splice (or Bent) to W.P. on Line tangent to Curve @ Sta. 293+39.82 ℄ I-70

PLAN



KEY PLAN
No Scale

Notes:
All dimensions shown are either perpendicular to or parallel to line tangent to curve at Sta. 295+59.82

GEOMETRICS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED

JULY 3, 1969

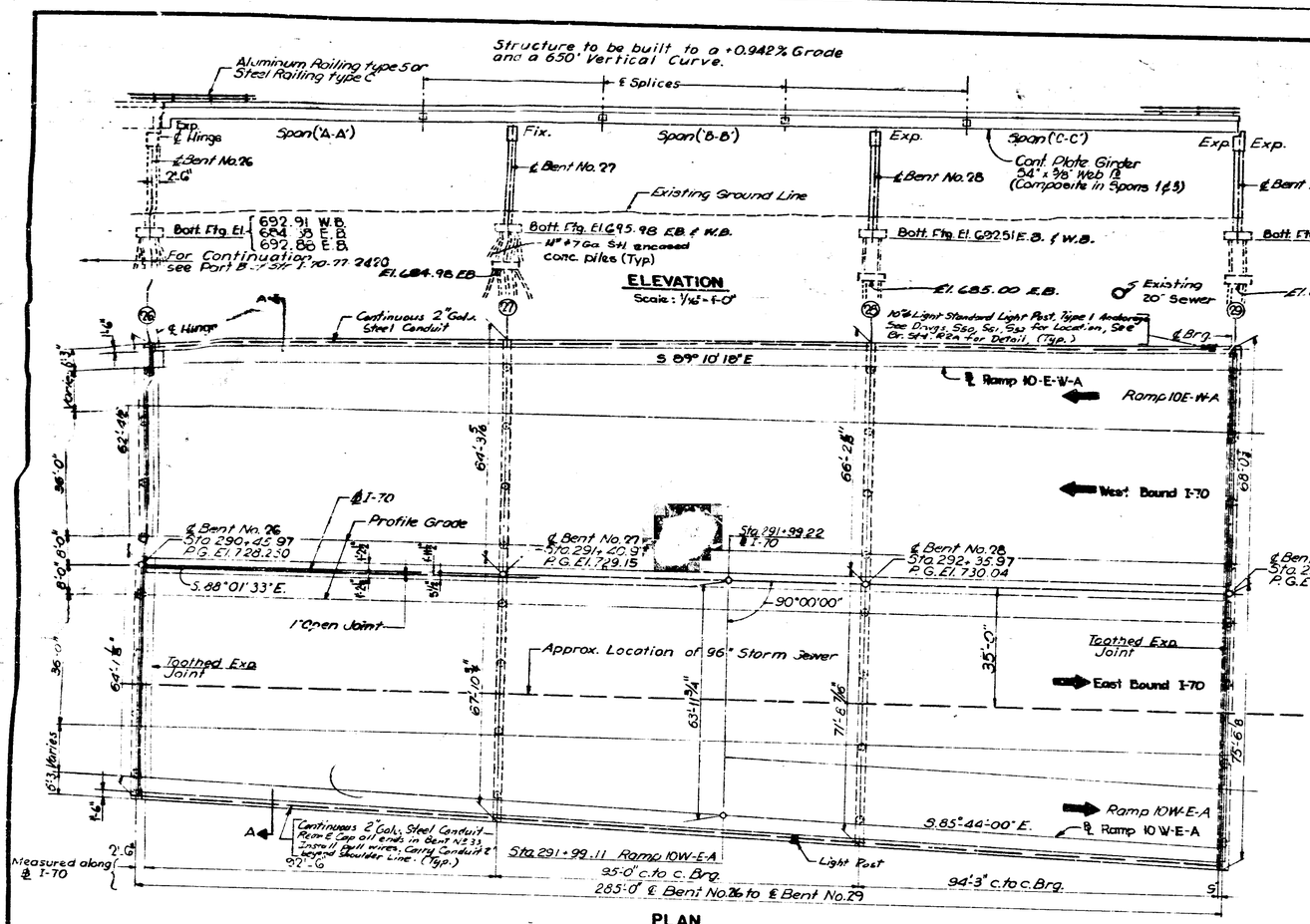
SUBMITTED FOR APPROVAL: [signature]

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

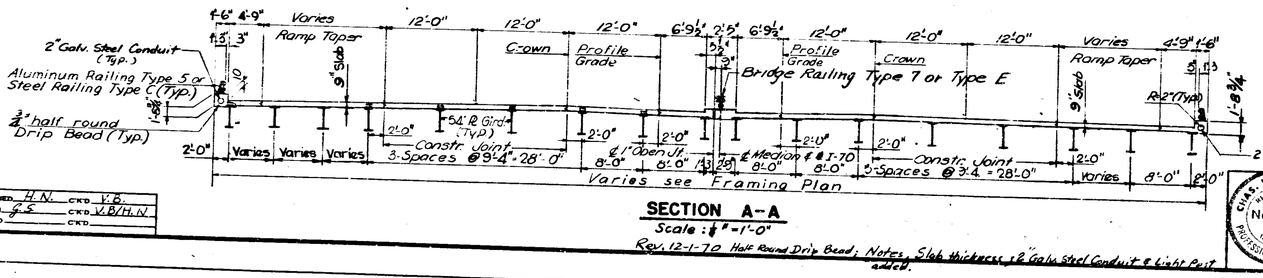
DRAWING:- S/2 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED AJT	C'K'D MHM		
DRAWN DRM	C'K'D MHM		
TRACED	C'K'D		

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



PLAN
Scale: 1" = 1'-0"



SECTION A-A
Scale: ¾"=1'-0"

DESIGNED H.N. CK'D V.B.
DRAWN G.S. CK'D V.B./H.N.
TRACED CK'D

Rev. 12-1-70 Half Round Drip Bead; Notes, Slab thickness, 2" Galv. Steel Conduit & Light Post added.

Rev. 12-10-70 EJC Ck'd. 12-10-70 TCC

BRIDGES OVER 20' SPAN

PUB. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	27	118

GENERAL NOTES

No present structure at proposed bridge site.
Depth of footings to be extended if found necessary.
See Art. 206.11(c) of the Specifications.
Pile shall have minimum bearing value shown on detail drawings.
Determine Pile lengths by Art. 701 of the Specifications.
For Details of steel encased concrete piles See Br. Std. C1
and applicable Articles in the Specifications.
Piles shall be driven to elevation necessary to obtain desired bearing.
Reinforcing steel covering shall be 2" in top and 1" min. in bottom of floor Slabs, 3" in footings except bottom steel which shall be 4" and 2" in all other parts, unless noted.
Concrete in footings and Retaining Wall 1-A to be Class "B"
Concrete in superstructure, except as to be Class "A"
Concrete in steel encased concrete piles, in bent columns and in concrete slopewall to be Class "A"
Continuous concrete pours shall be required between construction joints as shown on detail plans.
Bevel forms to under copings and chamfer exposed edges 1" unless noted.
Tolerance in position of pile head maximum 2".
All railing posts to be constructed perpendicular to grade.
The back of mudwalls and wingwalls and bent caps shall be waterproofed.
The tops of Bent caps at bents No 26, 28 & 29 shall be sloped 1" in accordance with Art. 702.20 of the Specifications. For Face of mudwall @ Bent 29 shall be stepped as shown on General Plan & Layout. Construct slopewall at Bent No. 29 to conform to Std. Dwg. C5. Roadway drains with Grate D placed as shown on the Superstructure Drainage Details dwg. Sht. No. 70 in the contract. See Special Provisions for items included in
For future light post installation. See Br. Sht. 182a.

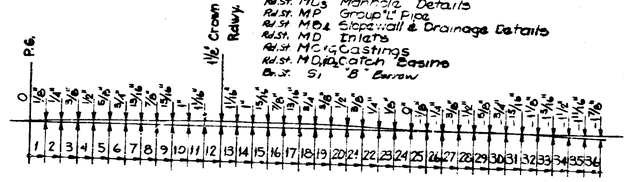
DESIGN DATA

Designed for H 20-44 Loading in Accordance with 1969 A.S.H.O. Specifications Checked for special loading of 2-24,000 # Axles spaced at 4'-0" c.c.

SHEET

Br. St. C1 Reinf. bar Notes & Details, I-70 Joint
Field Splice of Pile Shells, Joint Type I-A
Notch in stub at end of beams.
Br. St. D Neoprene Bearing
Br. St. BR1 Alum. Bridge Railing
Br. St. BR2 Alum. Bridge Railing Details
Br. St. BR3 Steel Bridge Railing
Br. St. BR4 Steel Bridge Railing Details
Br. St. R2A Bridge Lighting Details
Rd. St. MB2 Slopewall Details.
Rd. St. MD3 Manhole Details
Rd. St. MP Group "L" Pipe
Rd. St. MD4 Slopewall & Drainage Details
Rd. St. MD1 Inlets
Rd. St. MC1 Castings
Rd. St. MD2 Catch Basins
Br. St. S1 "B" Barrow

STANDARD DRAWINGS BRIDGE STANDARDS



PAVEMENT OFFSETS

NOTE:
THE STATE SHALL MAINTAIN, OR PROVIDE FOR THE MAINTENANCE OF THE BRIDGE STRUCTURE, APPROACH GRADES AND ALL OTHER HIGHWAY FACILITIES.
THE RAILROAD SHALL MAINTAIN ITS OWN ROADWAY & TRACK, THE STRUCTURES SUPPORTING THE SAME THE DRAINAGE THEREOF, AND ALL OTHER RAILROAD FACILITIES.

PART GENERAL PLAN

CONTINUOUS COMPOSITE STEEL GIRDER SPANS
3 SPANS; 92'-6", 95'-0" & 94'-3"
3" CURBS, TWO VARIABLE ROADWAY & 2'-5" MEDIAN.
I-70 OVER PENN. CENTRAL & DAKOTA STREET.

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

INDIANA STATE HIGHWAY COMMISSION
MARION COUNTY

SCALE:- AS NOTED JULY 3, 1969

PRELIMINARY PLANS SUBMITTED FOR APPROVAL:- DEC. 20, 1968
FINAL PLANS SUBMITTED FOR APPROVAL:-
DRAWING:- S13 OF S87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

BRIDGES OVER 20' SPAN					
PUB. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)77	1970	28	118

Aluminum Railing Type S or Steel Railing Type C

Structure To Be Built To A 650' Vertical Curve.

℄ Splices

T/Berm El. see Plan

Exp. ℄ Bent No. 29 — Span 'D-D' — Exp. ℄ Bent No. 30 — Span 'E-E' — Exp. ℄ Bent No. 31 — Span 'F-F' — Fix. ℄ Bent No. 32 — Exp. — Span 'G-G' — ℄ Bent No. 33

Existing Ground Line

ELEVATION

Scale: 1" = 1'-0

Batt Flg El 697.97 EB & WB. Batt Flg El. 698.97 EB & WB

14"ø 7 Ga Stl. encased Conc. Piles (Typ.)

Measured along ℄ I-70

El. 685.01 EB. 91'-5¼ c. to c. Top Shoe — 325-8 ℄ Bent No. 29 to End of Bridge Floor along ℄ I-70 — El. 684.98 EB.

℄ Top Shoe

Batt Flg El 697.98 EB & WB — 20'-0 ⅝ Actual Vert. Clearance — ℄ Dakota St. — 22'-0 Min. — Existing 30" Brk. Sewer — ℄ W. Track — ℄ E. Track

El. 684.117 EB — 92'-2⅜ c. to c. Top Shoe — 92'-2⅜ c. to c. Top Shoe

Batt Flg El 698.04 EB & WB — El. 685.04 — 47'-4⅞ c. to c. T. Shoe — El. 684.95 EB.

Retaining Wall — ℄ Brg. — 3'-0 Type 'A' Ditch (Paved) — Sodding Limits (Typ.)

℄ R.R.

Sta. 293+39.82 ℄ I-70 = Sta. 293+39.82 ℄ Ramp 10E-W-A

Continuous 2" Galv. Steel Conduit — Light Post — A

Guard Rail Type Ga or Gal — Bitum. Shld. 29'

T/Berm El. 725.87 — Spec. Bitum. Curb

20'-6 R.C. Br. Approach — 1½" Exp. Jt. — 1" Exp. Jt. w/Load Trans.

℄ Ramp 10E-W-A — S 89°-32'-05 E. — Ramp 10E-W-A — Rumble Strip — Bitum. Pvmt.

Edge of delineator — 1" Open Jt.

Jt. Type LA

℄ I-70 — Profile Grade — 90°-00'-00" — W.P. — 3'-0 Berm (Typ.)

P.C. Sta. 293+39.82 — ℄ West Track Sta. 295+51.90 ℄ I-70 — ℄ Bent No. 33 Sta. 296+55.46 P.G. El. 730.51

20'-6 R.C. Br. Approach — Ton to ℄ I-70 ℄ Sta. 293+39.82

℄ Bent No. 29 Sta. 293+30.97 P.G. El. 730.78 — 1" Open Joint — ℄ Bent No. 30 Sta. 294+23.16 P.G. El. 731.07 — ℄ Bent No. 31 Sta. 295+15.36 P.G. El. 731.09 — ℄ Bent No. 32 Sta. 296+07.55 P.G. El. 730.79 — P.T. Sta. 296+69.62

T/Berm El. 724.54 — Spec. Bitum Median Curb ℄ I-70 — 14'-0 — 297 — Bitum. Median

Approx. Location of 96" Storm Sewer — Toothed Exp. Jt. — Sta 295+76.66 ℄ I-70 ℄ Sta 10+00.00 ℄ Dakota St. — S. 35° 23.8' W. ℄ Dakota St. — Sta. 295+78.88 ℄ I-70

Limits of Slopewall — 88°48'27.8" — Jt. Type LA — 20'-6 R.C. Br. Approach

Edge of delineator — Rumble Strip — Bitum. Pvmt.

P.C. Sta. 293+39.82 ℄ Ramp 10W-E-A — ℄ Ramp 10W-E-A — Ramp 10W-E-A — P.C.C. Sta. 295+96.65 — 4'-0 — ℄ Bent No. 33 Sta. 296+51.09 El. 727.07

Continuous 2" Galv. Steel Conduit — Light Post

PLAN

Scale: 1" = 1'-0

29'-2⅜ Clear. — Pt. of min. Clearance — T/Berm El. 721.13

1½" Exp. Jt. — 1" Exp. Jt. w/Load Trans. — 20'-6 R.C. Br. Approach — Spec. Bitum. Curb — Bitum. Shld. 29' — Guard Rail Type Ga or Gal — Sodding Limits

2" Galv. Steel Conduit (Typ.) — ½ half round Drip Bead (Typ.)

Ramp 10E-W-A — Superelev. (See sheet 6 for details) — P.G. — 2'-7¾ Typ. — 1'-8⅜" — 9" Slab — ℄ Median — ℄ I-70 — Median Barrier Railing — S. El. I-70 (See sheet 5 for details) — S. El. I-70 (See sheet 5 for details) — 36" W.S. — Constr. Joint — Varies — 9" Slab — Ramp 10W-E-A — Superelev. P.G. — 2'-0 — 3 Spaces @ 8'-0 = 24'-0 — 3 Spaces @ 7'-0 = 21'-0 — 8'-0 — 7'-3 — 8'-0 — 4 Spaces @ 8'-0 = 32'-0 — 3 Spaces @ 8'-0 = 24'-0 — Varies Max 2'-9 Min. 1'-6 — 2" Open Joint

SECTION A-A

Scale: 1" = 1'-0

See sheet 7 for Superelev. details of Ramp 10W-E-A

Rev. 12-1-70 Hdr. Rail, Drip Board, Slab thickness, 2" Galv. Steel Conduit & Light Post added

Width varies From 2'-0 to 19'-0¼ See details — 2'-0 — 2" — 5'-0 — Edge of delineator

Construct concrete rumble strip by using 1½ x ¼ corrugated steel sheet.

RUMBLE STRIP DETAIL

NOTE: See dwg. S13 for General Notes, Design Data and Std. Dwgs.

GENERAL PLAN

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
4 SPANS — 91'-5¼", 92'-2⅜", 92'-2⅜", 47'-4⅞"
3" CURBS, 2'-5" MEDIAN, TWO VARIABLE ROADWAY.
I-70 OVER PENN. CENTRAL & DAKOTA STREET.

INDIANA STATE HIGHWAY COMMISSION

MARION COUNTY

SCALE:- AS NOTED — JULY 3, 1969

SUBMITTED FOR APPROVAL: DEC. 20 1969

SUBMITTED FOR APPROVAL:

DRAWING S14 OF S 87

PROJECT: I-70-3(65)77

BRIDGE CONTRACT NO. 8-7924

BRIDGE FILE: I-70-77-2386

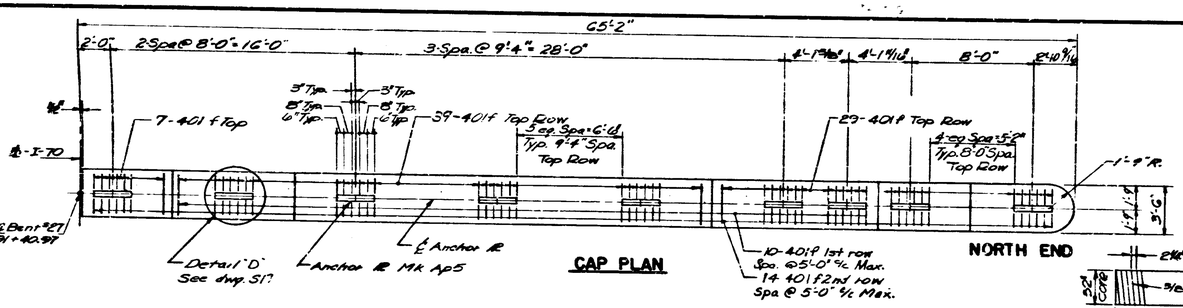
PRELIMINARY PLAN

FINAL PLANS

W. COLE JR. REGISTERED CHARLES No. 3653 STATE INDIANA PROFESSIONAL ENGINEER

DESIGNED H.N. CK'D V.B.
DRAWN J.S. CK'D V.B./H.N.
TRACED CK'D

Rev 12-1-70 EJC CHK. 12-10-70 TCC



BRIDGES OVER 20' SPAN					
FED. ROAD REF. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	29	118

BILL OF MATERIALS

REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD.	WEIGHT
1002f	7'-6"	36	
1003f	34'-9"	24	
#10	33'-3"	4	
#10	13'-9"	18	
#10	22'-6"	36	
Total #10 Bars			9873
909f	10'-6"	56	
Total #9 Bars			1999#
702f	10'-3"	52	
Total #7 Bars			1089#
501f	11'-0"	126	
502f	12'-0"	10	
503f	8'-6"	3	
#5	22'-3"	6	
#5	8'-3"	2	
Total #5 Bars			1748
401f	4'-9"	99	
#4	12'-0"	3	
#4	14'-3"	6	
#4	9'-3"	3	
Total #4 Bars			414#
303f	19'-1 1/2"	4	
Total 3/8" ø Spiral			1315
Total Reinf. Bars			16456#

CONCRETE

Class "B" In Ftg.	
Pour #1, #4 Pours @ 99%	39.6 cy.
Total Class "B" In Ftg.	39.6 cy.
Class "A" In Substructure	
Pour #2, #4 Pours @ 97%	19.8 cy.
Pour #3	22.2 cy.
Pour #4	6.5 cy.
Pour #5	7.8 cy.
Total Class "A" In Substr.	58.1 cy.

MISCELLANEOUS

28-14"ø x 7ga. Stl. Enc. Conc. Piles x 40'-0"	1120 Lin. Ft.
Anchor @ Mk Ap 5	9 each

NOTE:
See Br. Std. C1 for Reinf. Bar Notes.
See Dwg S12 for General Notes.
Anchor @ Mk AP5 to be preset in conc.
See Dwg 017 for Anchor @ Mk AP5 Det.
Piles to be driven to 40 ton minimum bearing capacity.

NOTE:
Spiral shall have one and one half (1½) extra turns provided at the ends. Cost of spacer bars to be included in cost of Spiral.

BENT 27 W.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S 5 OF S87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED DRM CK'D HHH
DRAWN D.L.B. CK'D HHH
TRACED CK'D

Rev. 12-1-70 Bill of Matls, Br Seat
Rev. 10-1-70 E&C CHK. 12-10-70 TEC

PROJECT NO.	LOC.	SHEET NO.	TOTAL SHEETS	FILE

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	30	118

BRIDGES OVER 20' SPAN

BILL OF MATERIALS
REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD.	WEIGHT
1101#	8'-0"	68	
#11	22'-0"	68	
#11	14'-9"	34	
Total #11 Bars			13502
1001#	14'-3"	26	
1001#	36'-6"	74	
#10	55'-0"	4	
#10	15'-9"	12	
#10	14'-0"	6	
Total #10 Bars			7141
904#	10'-0"	28	
Total #9 Bars			1,000
802#	9'-3"	42	
Total #8 Bars			1037
702#	10'-3"	26	
Total #7 Bars			845
501#	11'-0"	120	
502#	12'-0"	18	
503#	8'-6"	5	
#5	23'-6"	6	
#5	5'-0"	2	
Total #5 Bars			1,712
402#	4'-3"	59	
403#	5'-9"	46	
#4	15'-0"	3	
#4	14'-0"	3	
#4	10'-3"	3	
#4	7'-3"	3	
Total #4 Bars			437
3C1#	18'-11½"	4	
302#	11'-5½"	2	
Total 3/4 Spiral			1634
Total Reinf. Bars			27058

CONCRETE

Class "B" in Ftg.	
Pour #1, 2 Pours @ 12.1	24.2 cy.
Pour #3, 2 Pours @ 9.9	19.8 cy.
Total Class B in Ftg.	44.0 cy.
Class A in Substr.	
Pour #2, 2 Pours @ 2.7	5.5 cy.
Pour #4, 4 Pours @ 4.8	19.2 cy.
Pour #5	21.1 cy.
Pour #6	8.6 cy.
Pour #7	7.9 cy.
Tr. 701 Class A in Substr.	64.6 cy.

MISCELLANEOUS

34-14"ø x 7ga St. Enc. Conc. piles x 40'-0"	1360 Lin. Ft.
Anchor Bolt Mk. AP5	9 each

CAP PLAN

SOUTH END

ELEVATION

END ELEVATION

SECTION C-C

SECTION D-D

EXT. FOOTING PLAN

EXT. FTG. PILE PLAN

INT. FOOTING PLAN

INT. FTG PILE PLAN

SECTION B-B

NOTES:
Spiral shall have one and one half (1½) extra turns provided at the ends and one and one half (1½) turns of Lap at adjoining sections.
Cost of spacer bars to be included in cost of spiral
See dwg. S13 for general plan
See Br. std. C1 for Reinforcing Bar notes.
See Dwg. S13 for General Notes
Anchor Bolt Mk. AP5 to be Preset in conc.. See Dwg S17 Detail "D" for Detail.
Piles to be driven to 40 tons minimum bearing Capacity. Interior Ftg. Piles are to be Cored to Approx. Elevation of Bott. of 96" ø Storm Sewer.

DESIGNED D.R.M. CKD. M.M.M.
DRAWN D.L.B. CKD. M.M.M.
TRACED CKD.

Rev. 12-1-70 Bill of Mat'ls Notes

BENT 27 E.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

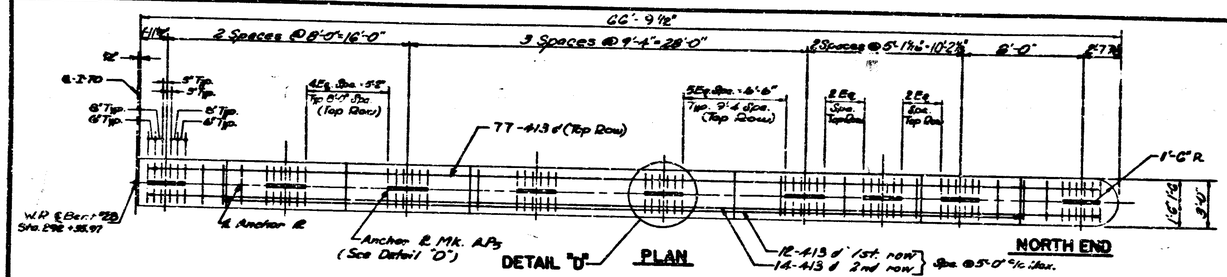
SUBMITTED FOR APPROVAL: Chas. H. Cole Jr.

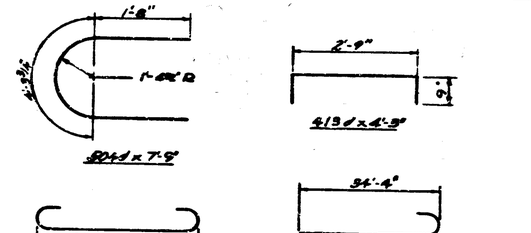
DRAWING:- S 16 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

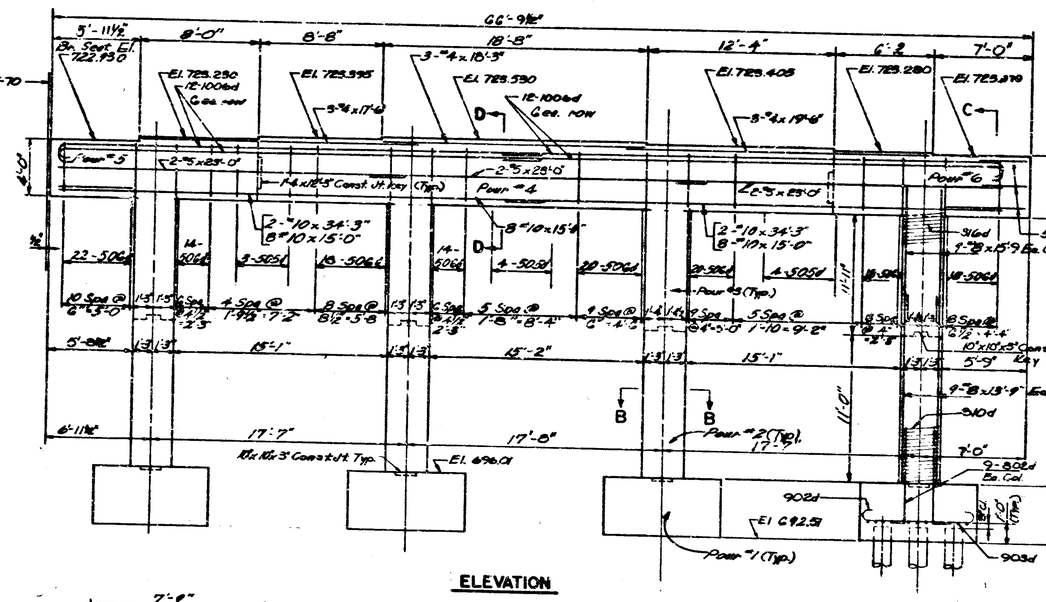
CHAS. H. COLE JR. REGISTERED No. 3553 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SUBDIV. NO.	LEVEL OR PLAN	PILE

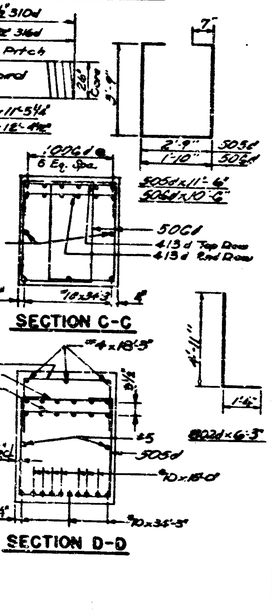
Rev. 12-10-70 E.J.C. Chk. 12-10-70

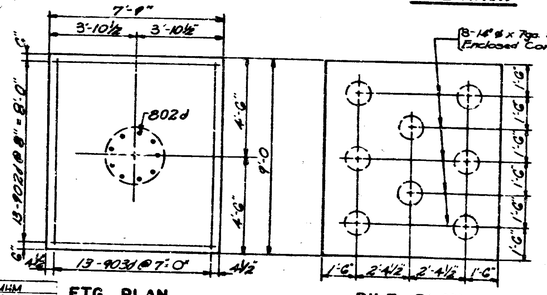


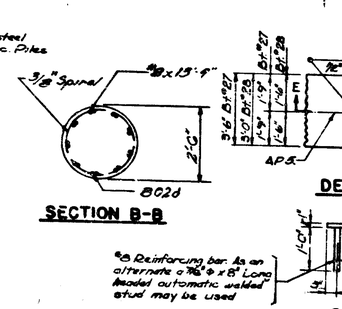


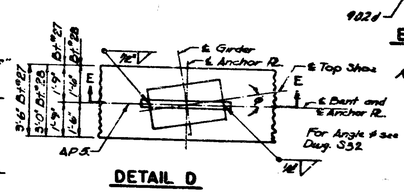


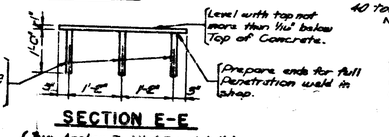
Intersection of ℄ I-70 & ℄ Bent #28 Sta. 292 + 85.97; P.G. El. 780.04











*B Reinforcing bar as an alternate a ⅝" ø x 8" Long headed automatic welded stud may be used

(Typ. Anchor Rt. Mk. APs detail)

NOTES
See Br. Std. C1 for reinforcing bar notes
See Dwg. S19 for general plan
Anchor Rt. Mk. APS to be preset in concrete.
14 - ⅜" x 7 Ga. Std. encased cone piles are to be driven to 40 ton min. brg. capacity
NOTE:
Spiral shall have one and one half (1½) extra turns provided at the ends and one and one half (1½) turns of lap at adjoining sections. Cost of spacer bars to be included in cost of Spiral.

BRIDGES OVER 20' SPAN

FHWA Grand Junction Rte. No.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	31	118

BILL OF MATERIALS

REINFORCING STEEL

Mark or Size	Length	No. Req'd.	Weight
100 G d	35'-9"	24	
#13	34'-3"	6	
#10	15'-0"	21	
Total #10 Bars			3931
902 d	9'-9"	32	
903 d	11'-0"	32	
Total #9 Bars			3669
802 G	6'-3"	36	
#8	15'-9"	36	
#8	13'-9"	36	
Total #8 Bars			3436
504 d	7'-9"	9	
505 d	11'-6"	11	
506 d	10'-6"	144	
#5	28'-0"	6	
Total #5 Bars			1877
413 d	4'-3"	108	
#4	18'-6"	3	
#4	17'-6"	3	
#4	15'-6"	3	
Total #4 Bars			404
310 d	11'-5¼"	4	
316 d	18'-4½"	4	
Total 3/8 ø Spiral			1326
Total Reinf. Bars			16,643#

CONCRETE

Class "B" in Ftg.	
Pour #1, 4 Pours @ 9.0 d	36.2 c.y.
Total Class "B" in Ftg.	36.2 c.y.
Class "A" in Substructure	
Pour #2, 1 Pours @ 2.0	8.0 c.y.
Pour #3, 4 Pours @ 2.16	8.7 c.y.
Pour #4, 1 Pour @ 19.9	19.9 c.y.
Pour #5, 1 Pour @ 6.5	16.5 c.y.
Pour #6, 1 Pour @ 6.1	6.1 c.y.
Total Class "A" in Substr.	49.2 c.y.

MISCELLANEOUS

32 - 18 ø x Typ. SH Enc. Conc. piles x 30'-0"	960 L.F.
Anchor Rt. Mk. APs	9 each

BENT 28 W.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S17 OF S67

PROJECT:- I-70-3(65)77

BRIDGE CONTRACT NO. B-7924

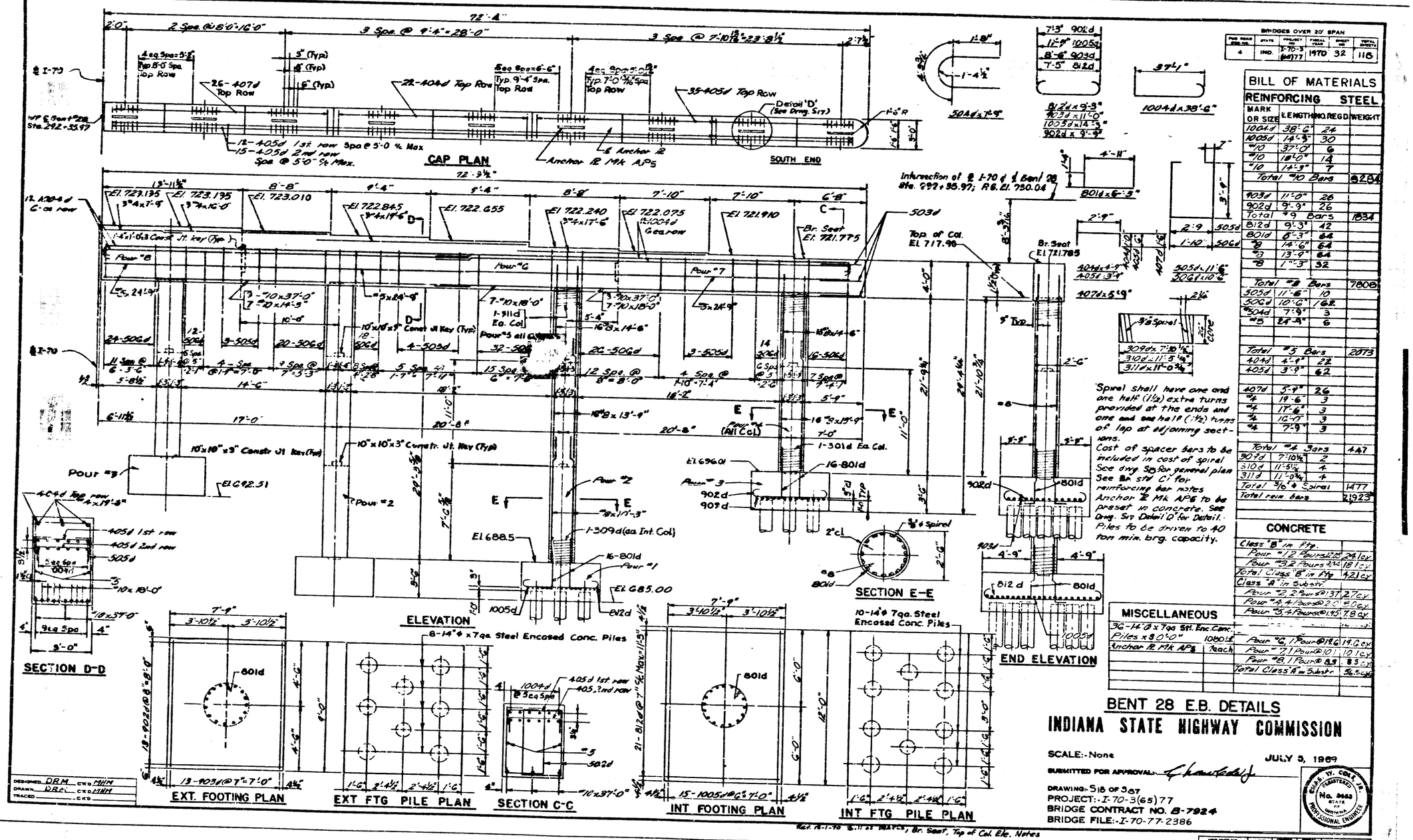
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 8863 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CK'D MHM
DRAWN DLB CK'D MHM
TRACED CK'D

Rev 12-1-70 Bill of Mat'ls, Bridge Sizes, Cap Depths

Rev 12-1-70 E.I.C. Cwk. 12-18-70 TCC



BRIDGES OVER 20' SPAN

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (64)77	1970	32	116

BILL OF MATERIALS

REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQ'D	WEIGHT
1004d	38'-6"	24	
1005d	14'-5"	30	
#10	37'-0"	6	
#10	18'-0"	14	
#10	14'-9"	7	
Total #10 Bars			6284
903d	11'-0"	26	
902d	9'-9"	26	
Total #9 Bars			1834
812d	9'-3"	42	
801d	8'-3"	64	
#8	14'-6"	64	
#3	13'-9"	64	
#8	1'-3"	32	
Total #8 Bars			7808
505d	11'-6"	10	
506d	10'-6"	162	
#5 04d	7'-9"	3	
#5	2'-3"	6	
Total #5 Bars			2073
404d	4'-9"	22	
405d	3'-9"	62	
407d	5'-9"	26	
#4	19'-6"	3	
#4	17'-6"	3	
#4	16'-0"	3	
#4	7'-9"	3	
Total #4 Bars			447
309d	7'-10½"	2	
310d	11'-5½"	4	
311d	11'-0¾"	4	
Total ⅜" ϕ Spiral			1477
Total rein bars			21923

CONCRETE

Class "B" in Ftg.	
Pour #1 & 2 Pours @ 12¢	241 cy
Pour #3 & 2 Pours @ 12¢	181 cy
Total Class "B" in Ftg	421 cy
Class "A" in Substr.	
Pour #2 & 2 Pours @ $37	27 cy
Pour #4 & 4 Pours @ 20	80 cy
Pour #5 & 4 Pours @ 195	78 cy
Pour #6 & 1 Pour @ 19¢	19.0 cy
Pour #7 & 1 Pour @ 10	10 cy
Pour #8 & 1 Pour @ 8.5	8.5 cy
Total Class "A" in Substr.	36.5 cy

MISCELLANEOUS

36-14"ϕ x 7ga Stl. Enc. Conc. Piles x 80'-0"	1080 lf	
Anchor 12 Mk AP5	1 each	

BENT 28 E.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None

JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

DRAWING:- S18 OF 387

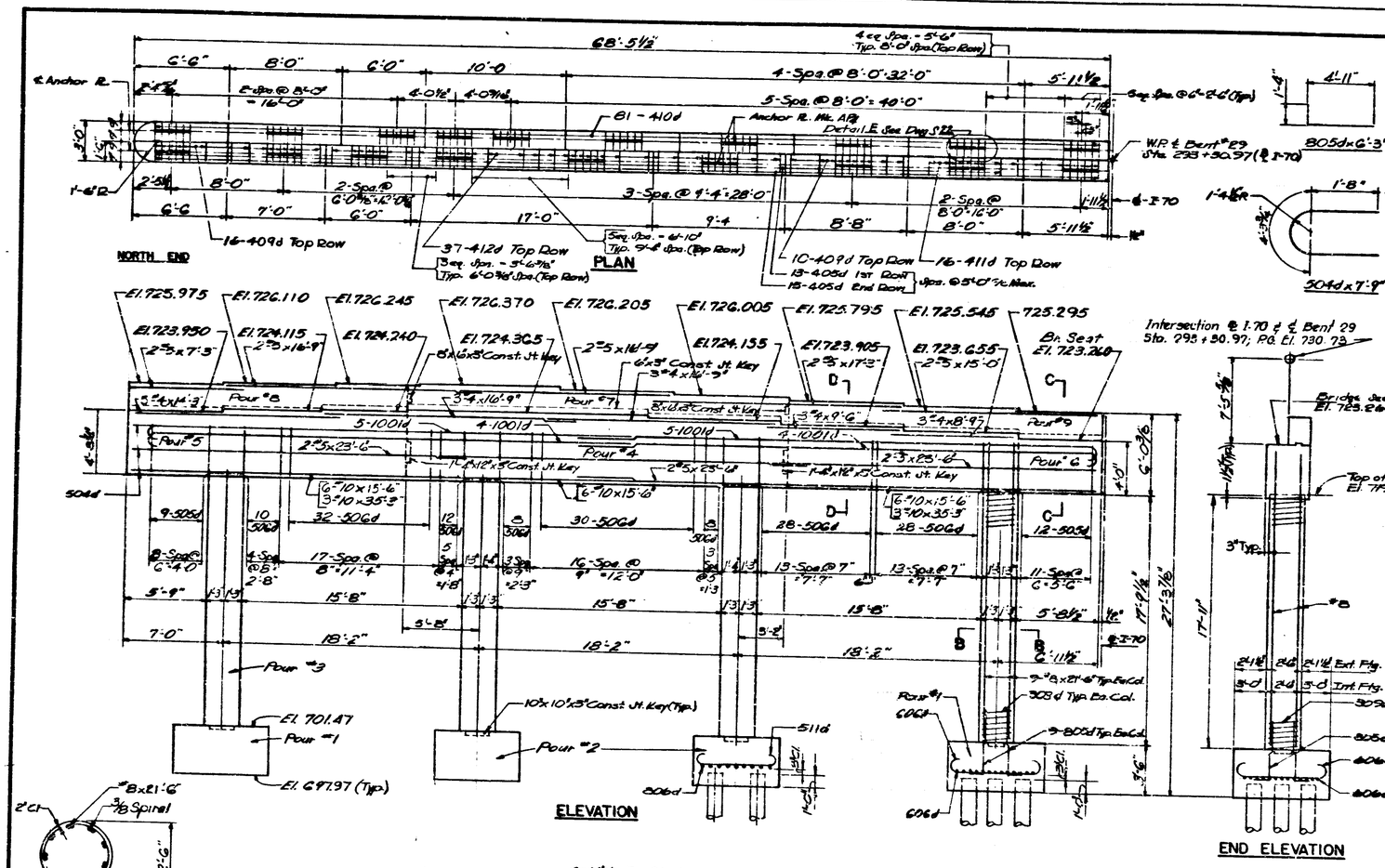
PROJECT:- I-70-3(65)77

BRIDGE CONTRACT NO. B-7924

BRIDGE FILE:- I-70-77-2386

DESIGNED DRM CKD MHM
DRAWN DRL CKD LNH
TRACED CKD

Rev. 8-1-70 S.H. as Bents, Br. Seat, Top of Col. Ele. Notes



NOTE:
Spiral shall have one and one half (1½) extra turns provided at the ends.

Cost of spacer bars to be included in cost of spiral
See dwg. S 13 for general plan
See Br. Std C1 for reinforcing bar notes
See dwg. S 13 for general notes
Anchor ℞ Mk. AP4 to be preset in concrete See Dwg. S22 Detail 'E' for Detail.
See dwg. S 22 for Detail 'E'
Piles to be driven to 40 ton minimum bearing capacity.

BRIDGES OVER 20' SPAN					
FED. ROAD DESIGN.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	33	116

BILL OF MATERIALS

REINFORCING STEEL

MARK	LENGTH	NO. REQ'D	WEIGHT
100 1d	36'-6"	18	
#10	15'-6"	18	
#10	35'-3"	6	
Total #10 Bars			4938
805d	6'-3"	36	
806d	10'-3"	18	
#8	21'-6"	36	
Total #8 Bars			3160
606d	7'-9"	32	
Total #6 Bars			603
504d	7'-9"	3	
505d	11'-6"	21	
506d	10'-6"	136	
511 d	6'-9"	18	
#5	23'-6"	6	
#5	17'-3"	2	
#5	16'-9"	4	
#5	15'-0"	2	
#5	7'-3"	2	
Total #5 Bars			2411
405d	3'-9"	28	
409d	5'-0"	26	
410d	8'-3"	81	
411d	4'-0"	16	
412d	4'-0"	37	
#4	16'-9"	6	
#4	14'-3"	3	
#4	9'-6"	3	
#4	8'-9"	3	
Total #4 Bars			877
303d	18'-0"	4	
Total ⅜ ϕ Spiral			1010
Total Reinf. Bars			13001#

CONCRETE

Class "B" in Ftg.	
Pour #1, 2 Pours @ 5.9	11.8 c.y.
Pour #2, 2 Pours @ 7.6	15.2 c.y.
Total Class "B" in Ftg.	25.0 c.y.
Class "A" in Substr.	
Pour #3, 4 Pours @ 5.22	12.9 c.y.
Pour #4, 1 Pour @ 15.2	15.2 c.y.
Pour #5, 1 Pour @ 11.0	11.0 c.y.
Pour #6, 1 Pour @ 10.8	10.8 c.y.
Pour #7, 1 Pour @ 2.8	2.8 c.y.
Pour #8, 1 Pour @ 2.2	2.2 c.y.
Pour #9, 1 Pour @ 2.3	2.3 c.y.
Total Class "A" in Substr.	57.2 c.y.

MISCELLANEOUS

22-14"ϕx7 ga. St. H. Enc. Piles x 35'-0"	770 Lin. Ft.
Anchor ℞ Mk. AP4	19 each

BENT 29 W.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:-NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL:

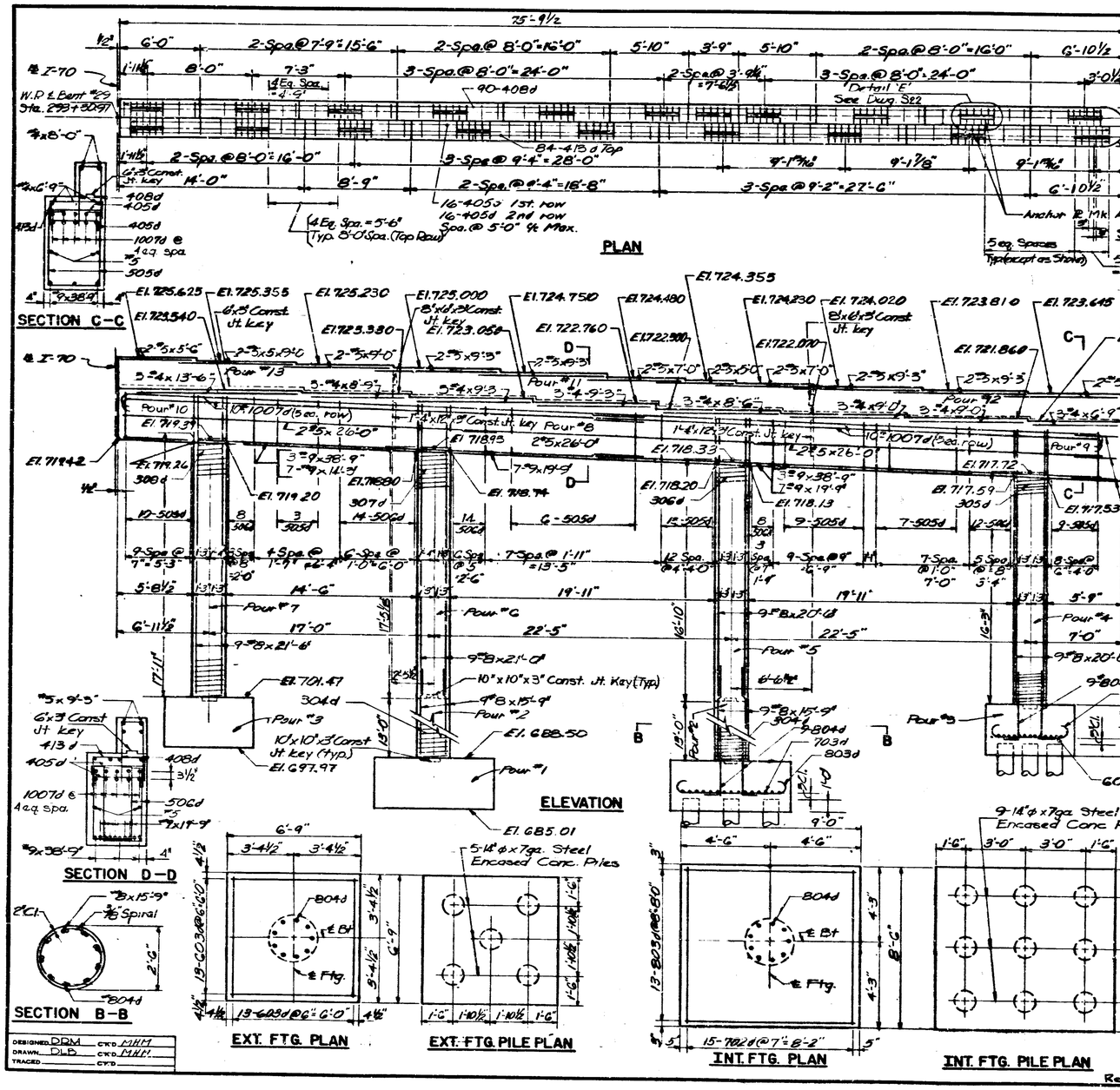
DRAWING:- S 19 OF S 67
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CK'D MHM
DRAWN DLB CK'D MHM
TRACED CK'D

Rev. 12-1-70 Bill of Mat'ls, Notes

Rev. 12-1-70 Bill of Mat'ls, Chk. 12-1-70 CCW



BRIDGES OVER 20' SPAN

FWD. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	54	118

BILL OF MATERIALS

REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD.	WEIGHT
1007d	40'-3"	20	
TOTAL #10 Bars			5464
#9	38'-9"	6	
#9	19'-9"	14	
#9	11'-3"	7	
TOTAL #9 Bars			2070
609d	10'-9"	26	
804d	6'-3"	36	
#8	21'-6"	9	
#8	21'-0"	9	
#8	20'-6"	9	
#8	20'-0"	9	
#8	15'-9"	18	
TOTAL #8 Bars			4098
702d	9'-9"	30	
TOTAL #7 Bars			598
603d	7'-9"	58	
TOTAL #6 Bars			605
504d	7'-9"	3	
505d	11'-6"	57	
506d	10'-6"	56	
#5	26'-0"	6	
#5	9'-3"	8	
#5	9'-0"	4	
#5	8'-0"	2	
#5	7'-0"	4	
#5	5'-0"	2	
#5	5'-0"	2	
TOTAL #5 Bars			1666
405d	3'-9"	32	
408d	7'-3"	90	
413d	2'-3"	84	
#4	13'-6"	3	
#4	9'-3"	6	
#4	9'-0"	6	
#4	8'-9"	3	
#4	8'-6"	3	
#4	6'-9"	3	
TOTAL #4 Bars			905
305d	16'-3¾"	1	
306d	17'-3"	1	
307d	17'-9¾"	1	
308d	18'-0"	1	
Total #7/8 ϕ Spiral Bars			1402
TOTAL Reinf. Bars			14306

CONCRETE

Class 'B' in Ftg.		
Pour #1, 2 Pours @ 9.9	19.8 c.y.	
Pour #3, 2 Pours @ 5.9	11.8 c.y.	
Total Class 'B' in Ftg.	31.6 c.y.	
Class 'A' in Substr.		
Pour #2, 2 Pours @ 2.36	4.7 c.y.	
Pour #4, 1 Pour @ 2.9	2.9 c.y.	
Pour #5, 1 Pour @ 3.1	3.1 c.y.	
Pour #6, 1 Pour @ 3.2	3.2 c.y.	
Pour #7, 1 Pour @ 3.3	3.3 c.y.	
Pour #8, 1 Pour @ 14.8	14.8 c.y.	
Pour #9, 1 Pour @ 10.5	10.5 c.y.	
Pour #10, 1 Pour @ 10.9	10.9 c.y.	
Pour #11, 1 Pour @ 3.4	3.4 c.y.	
Pour #12, 1 Pour @ 2.5	2.5 c.y.	
Pour #13, 1 Pour @ 2.3	2.3 c.y.	
Total Class 'A' in Substr.	61.6 c.y.	

MISCELLANEOUS

28-14" ϕ 7ga Stl. Enc. Conc. Pile x 35'-0"	980 Lft
Anchor R Mk AP4	2029

BENT 29 E.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL:- Charles W. Cole

DRAWING:- 520 OF 587

PROJECT:- I-70-3(65)77

BRIDGE CONTRACT NO. B-7924

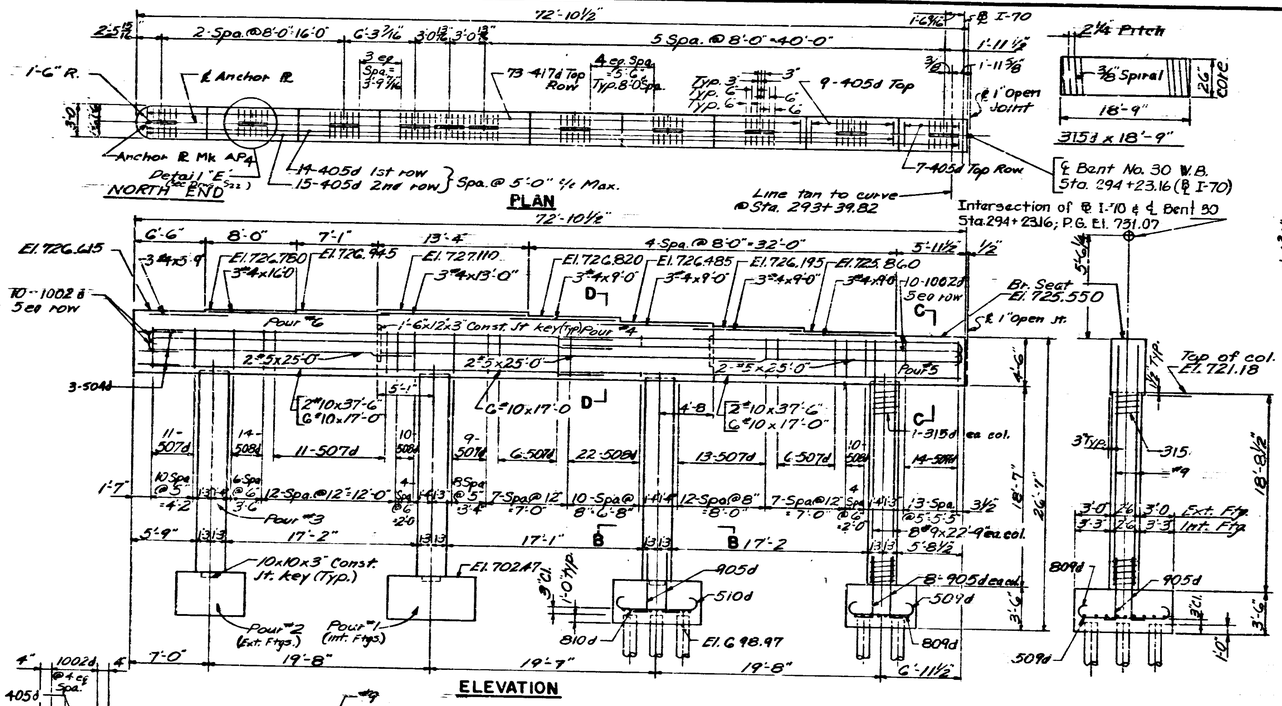
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3453 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CK'D MHM
DRAWN DLB CK'D MHM
TRACED CK'D

Rev. 12-1-70 Bill of Mat'ls, Notes

Rev. 12-1-70 E&C; CHK. 12-10-70 TCC



Notes
Spirals shall have one and one half (1½) extra turn provided at ends
Cost of spacer bars to be included in cost of spiral
See dwg. 514 for general plan
See Br. Std. C1 for reinforcing bar notes
See dwg. 513 for general notes
Anchor R Mk AP4 to be preset in conc.
See dwg. 522 Detail "E" for Anchor R Mk-AP4 Detail.
Piles to be driven to 40 ton minimum bearing capacity

BRIDGES OVER 20' SPAN

PUB. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	35	118

BILL OF MATERIALS
REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD.	WEIGHT
1002d	38'-9"	20	
#10	37'-6	4	
#10	17'-0	18	
Total #10 Bars			5,297
905d	7'-0	32	
#9	22'-9"	32	
Total #9 Bars			3,237
809d	10'-0	18	
810d	10'-3"	22	
Total #8 Bars			1,083
504d	7'-9"	3	
507d	12'-6"	70	
508d	11'-6"	56	
509d	6'-9"	18	
510d	8'-6"	18	
#5	25'-0"	6	
Total #5 Bars			2051
405d	3'-9"	45	
417d	6'-3"	73	
#4	13'-0"	3	
#4	9'-0"	12	
#4	5'-9"	3	
#4	16'-0"	3	
Total #4 Bars			559
315d	18'-9"	4	
⅜" Ø Spirals			1051
Total Reinf Bars			13278#

CONCRETE

Class "B" in Ftg.	
Pour #1, 2 Pours @ 9.04	18.1 cy.
Pour #2, 2 Pours @ 6.6	13.2 cy.
Total Class "B" in Ftg.	31.3 cy.
Class "A" in Substructure	
Pour #3, 4 Pours @ 3.37	13.5 cy.
Pour #4	18.9 cy.
Pour #5	11.8 cy.
Pour #6	13.5 cy.
Total Class "A" in Substr.	57.7 cy.

MISCELLANEOUS

28-14" Ø x 7 Ga. STL. Encs. conc. piles x 20'-0"	560 LF.
Anchor R Mk AP4	11 ea.

BENT 30 WB. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE
JULY 3, 1969
SUBMITTED FOR APPROVAL:
DRAWING:- 521 OF 587
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

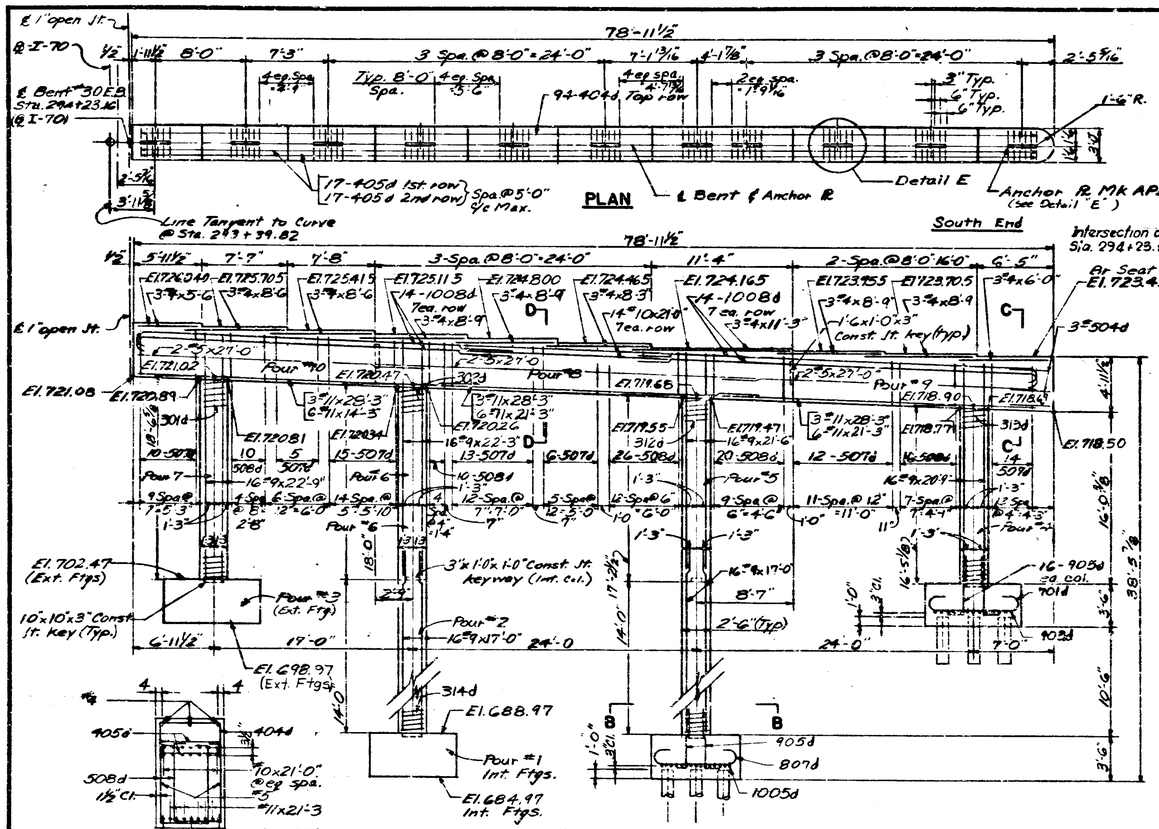
CLARENCE W. CLARK REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRH C'K'D MHM
DRAWN R.L.B. C'K'D MHM
TRACED C'K'D

Rev. 12-1-70 Bill of Matls. Notes

Rev 12-1-70 EJC; C HK. 12-10-70 TGC

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



BRIDGES OVER 20' SPAN					
FED. ROAD PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (69)77	1970	36	118

BILL OF MATERIALS

REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD	WEIGHT
#11	21'-3"	14	
#11	14'-3"	7	
#11	28'-3"	9	
Total #11 Bars			3462
1005d	14'-3"	30	
1008d	33'-6"	28	
#10	21'-0"	14	
Total #10 Bars			7141
903d	11'-0"	26	
905d	7'-0"	64	
#9	22'-9"	16	
#9	22'-3"	16	
#9	21'-6"	16	
#9	20'-9"	16	
#9	17'-0"	32	
Total #9 Bars			9051
807d	9'-3"	34	
Total #8 Bars			840
701d	9'-9"	26	
Total #7 Bars			518
504d	7'-9"	3	
507d	12'-6"	75	
508d	11'-6"	82	
#5	27'-0"	6	
Total #5 Bars			2155
404d	4'-9"	44	
405d	3'-9"	34	
#4	11'-3"	3	
#4	8'-9"	12	
#4	8'-6"	6	
#4	8'-3"	3	
#4	6'-0"	3	
#4	5'-6"	3	
Total #4 Bars			550
3/8" ø Spiral			1390
Total reinf. Bars			25197

MISCELLANEOUS

36-14" Φx7ga. Stl. Enc. conc. piles x 20'-0"	720 Lft.
Anchor Pt MK AP4	11 ea.

CONCRETE

Class "B" in Ftg.					
Pour #1, 2 Pours @ 12.05	24.1 cy				
Pour #3, 2 Pours @ 9.91	19.8 cy				
Total Class "B" in Ftg	43.90				
Class "A" in Substructure					
Pour #2, 2 Pours @ 2.54	5.1 cy				
Pour #4, 1 Pour @ 3'-9"	3.0 cy	Total #4 Bars			550
Pour #5, 1 Pour @ 3.1	3.1 cy	30' d	18'-6¾	1	
Pour #6, 1 Pour @ 3.3	3.3 cy	302d	18'-4½	1	
Pour #7, 1 Pour @ 3.4	3.4 cy	312d	17'-7½	1	
		313d	16'-6"	1	
		314d	14'-5¼	2	
Pour #8, 1 Pour @ 18.8	18.8 cy	Total ⅜" ø Spiral			1390
Pour #9, 1 Pour @ 12.1	12.0 cy	Total reinf. Bars			25197
Pour #10, 1 Pour @ 11.5	11.5 cy				
Total Class "A" in Substr	60.2 cy				

BENT 30 E.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 5, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S22 OF 587

PROJECT:- I-70-3(65)77

BRIDGE CONTRACT NO. B-7924

BRIDGE FILE:- I-70-77-2386

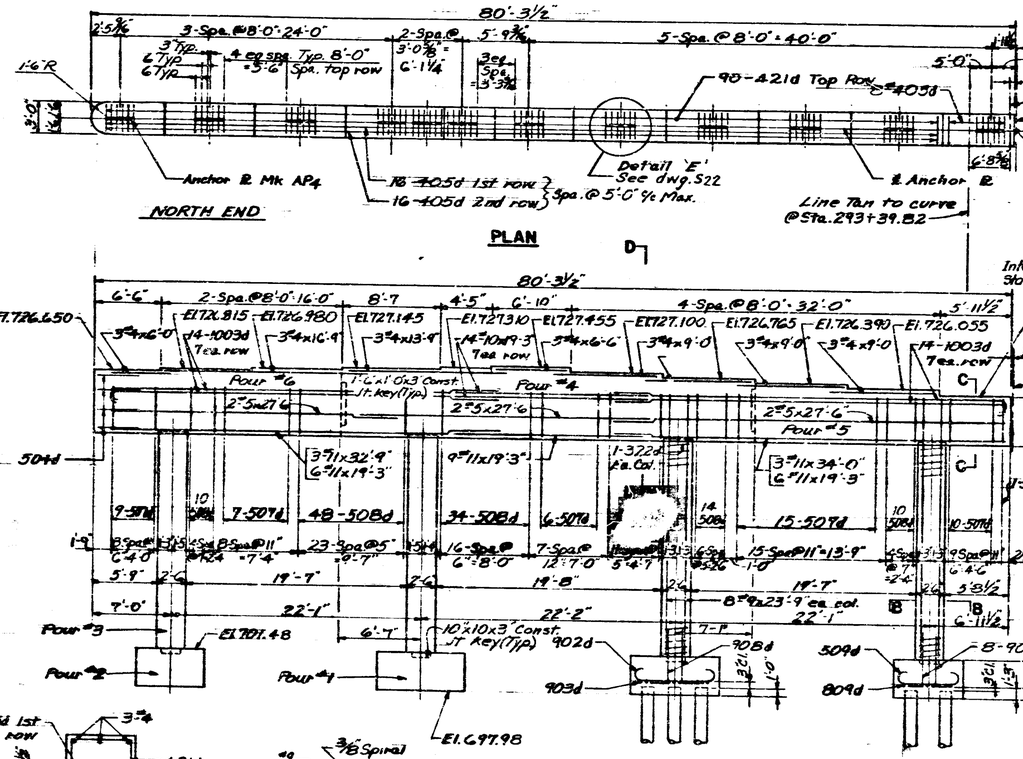
CHAS. W. COLE REGISTERED No. 2653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CK'D MHM
DRAWN DLB CK'D MHM
TRACED CK'D

Rev 12-1-70 Bill of Mat'ls

Rev. 12-1-70 FIC; CME: 12-

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



NOTES
Spiral shall have one and one half (1½) extra turn provided at ends

Cost of spacer bars to be included in cost of spiral
See dwg. S14 for general plan.
See br. std. C1 for reinforcing bar notes
See dwg. S13 for general notes.
Anchor ℄ Mk AP4 to be preset in concrete.
See Dwg S22 Detail 'E' for Anchor ℄ Mk AP4 Detail.
Piles to be driven to 40 ton minimum bearing capacity.

BRIDGES OVER 20' SPAN

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)TT	1970	37	118

BILL OF MATERIALS

REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD	WEIGHT
#11	34'-0"	3	
#11	32'-9"	3	
#11	19'-3	21	
Total #11 Bars			3212
1003d	34'-9	28	
#10	19'-3	14	
Total #10 Bars			5346
902d	9'-9"	26	
903d	11'-0"	26	
908d	7'-0	32	
#9	23'-9	32	
Total #9 Bars			5180
809d	10'-0	18	
Total #8 Bars			481
504d	7'-9"	4	
509d	6'-9	18	
507d	12'-6	48	
508d	11'-6	140	
#5	27'6	6	
Total #5 Bars			2636
405d	3'9"	40	
421d	6'-9"	90	
#4	16'-9	3	
#4	13'-9	3	
#4	9'-0"	12	
#4	6'-6	3	
#4	6'-0	3	
Total #4 Bars			664
322d	19'-10½	4	
Total 3/8" ø Spiral			1112
Total reinf Bars			13,631 #

CONCRETE

Class "B" in Ftg.	
Pour #1, 2 Pours @ 90%	78.1 cy.
Pour #2, 2 Pours @ 6%	13.2 cy.
Total Class "B" in Ftg.	31.3 cy.
Class "A" in Substructure	
Pour 3, 4 Pours @ 3.5%	14.2 cy.
Pour #4	24.1 cy.
Pour #5	12.2 cy.
Pour #6	14.2 cy.
Total Class "A" in Substr	64.7 cy.

MISCELLANEOUS

28-14" Ø x 7 Ga. Stl. Encs. conc. piles x 20'-0	560 Lft
Anchor ℄ Mk AP4	12 each

BENT 31 W.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None — JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S25 OF 567
PROJECT:- I-70-3(65)TT
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

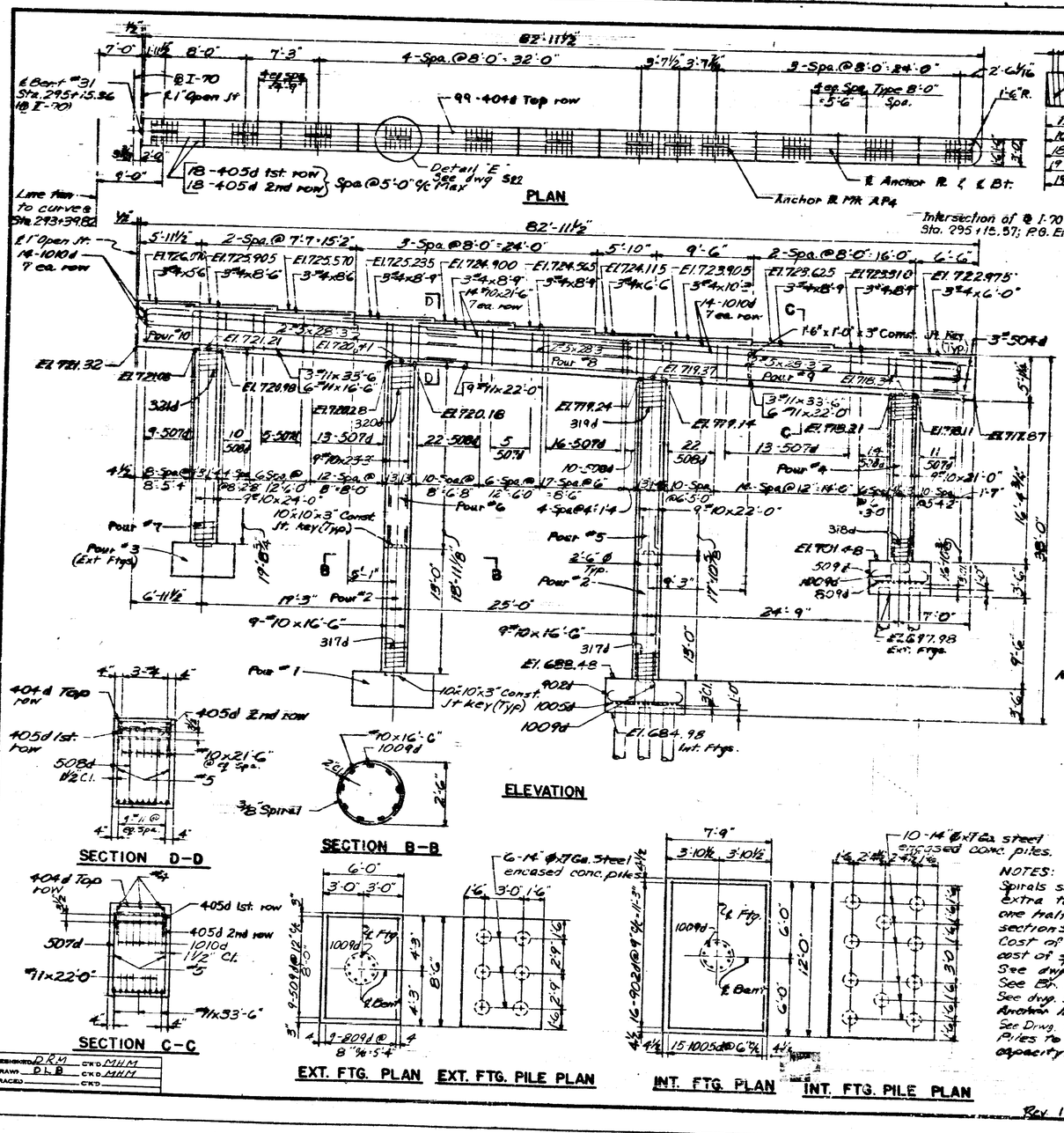
CHAS. W. ECLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CKD MHM
DRAWN DLB CKD MHM
TRACED CKD

Rev. 12-1-70 Bill of Mat'ls, Notes

Rev. 12-1-70 EIC; Chk. 12-10-70 TEC

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	38	118

BILL OF MATERIALS
REINFORCING STEEL

MARK OR SIZE	LENGTH	NO. REQD.	WEIGHT
#11	33'-6"	6	
#11	16'-6"	6	
#11	22'-0"	15	
Total #11 Bars			3347
1005d	14'-3"	30	
1009d	7'-6"	36	
1010d	32'-9"	28	
#10	16'-6"	18	
#10	21'-0"	9	
#10	21'-6"	14	
#10	22'-0"	9	
#10	25'-3"	9	
#10	24'-0"	9	
Total #10 Bars			13257
902d	9'-9"	32	
Total #9 Bars			1061
804d	10'-0"	18	
Total #8 Bars			480
504d	7'-9"	8	
507d	12'-6"	72	
508d	11'-6"	78	
509d	6'-9"	18	
#5	28'-3"	6	
Total #5 Bars			2202
404d	4'-9"	99	
405d	3'-9"	36	
#4	10'-3"	3	
#4	8'-9"	15	
#4	8'-6"	6	
#4	6'-0"	3	
#4	5'-6"	3	
#4	6'-6"	3	
Total #4 Bars			583
Total #3 Spiral			1403
Total reinf. Bars			22,333#

CONCRETE		MISCELLANEOUS	
Class "B" in Ftg.			
Pour #1, 2 Pours @ 12.06	24.1 cy		
Pour #3, 2 Pours @ 6.6	13.2 cy		
Total Class "B" in Ftg.	37.3 cy		
Class A in Subst.			
Pour #2, 2 Pours @ 2.36	4.7 cy		
Pour #4, 2 Pours @ 1.87	3.7 cy		
Pour #5, 1 Pour @ 1.65	3.3 cy		
Pour #6, 1 Pour @ 1.74	3.4 cy		
Pour #7, 1 Pour @ 1.86	3.6 cy		
Pour #8, 1 Pour @ 1.27	2.5 cy		
Pour #9, 2 Pours @ 2.77	5.4 cy		
Pour #10, 2 Pours @ 3.11	6.1 cy		
Total Class "A" in Subst.	69.6 cy	32-14" ϕ x 7 ga. Stl. Enc. Conc. Piles x 20'-0"	640 LFT
		Anchor Rt. Mk AP4	12 each

BENT 31 E.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

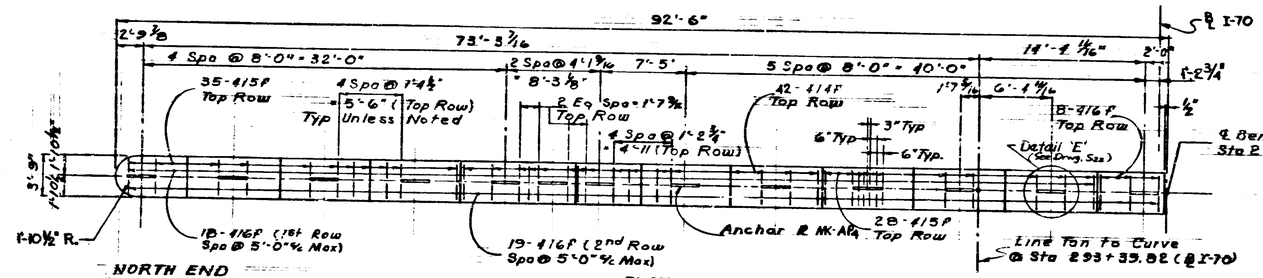
DRAWING 324 OF 587
PROJECT: I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE: I-70-77-2386

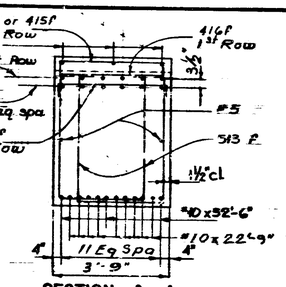
CHAS. W. COLE JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CK'D MHM
DRAWN DLB CK'D MHM
TRACED CK'D

Rev. 12-1-70 EJC; CHK. 12-10-70 TCC

Rev. 12-1-70 Bill of Matls, Notes



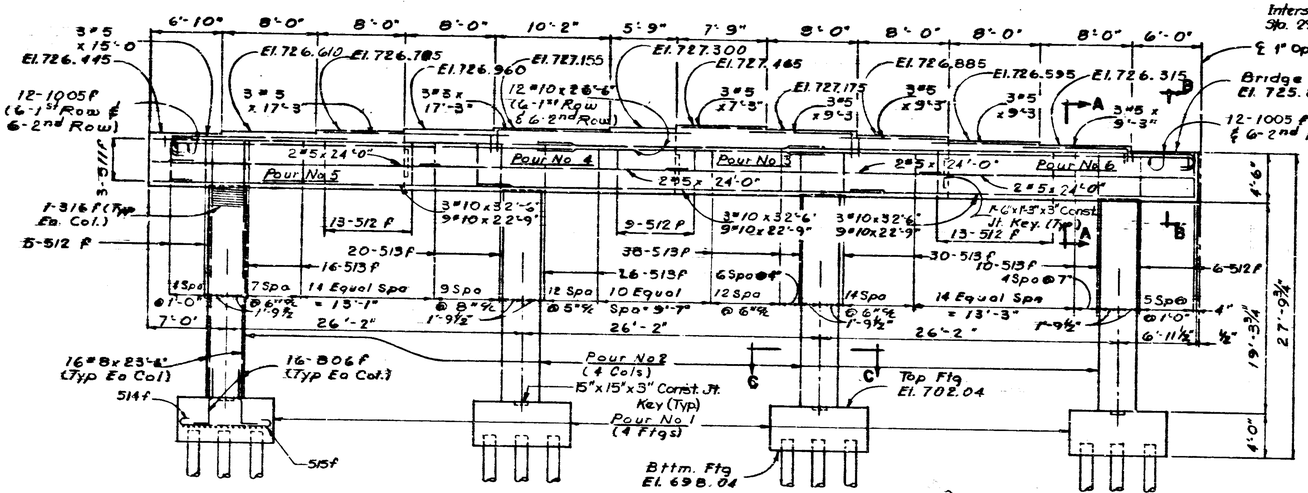


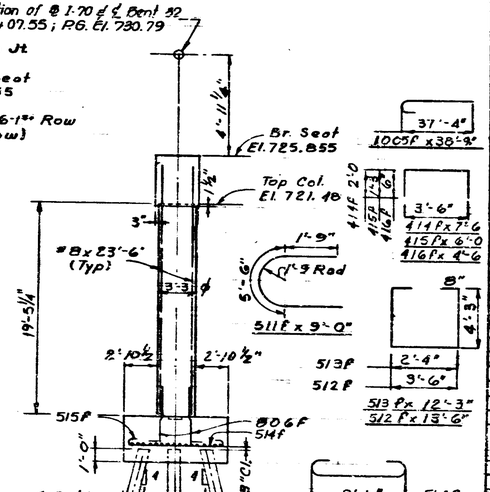
BRIDGES OVER 20' SPAN

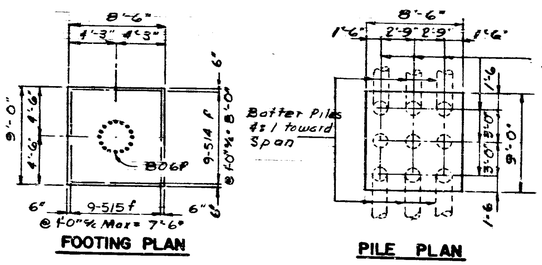
FHWA ROAD SYSTEM NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	39	118

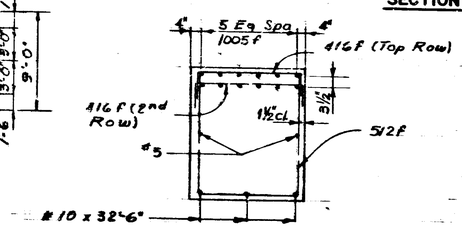
BILL OF MATERIALS
REINFORCING STEEL

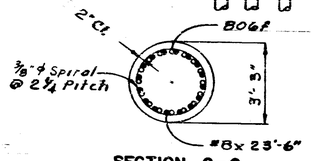
MARK OR SIZE	LENGTH	NO. REQ'D	WEIGHT
1005F	38'-9"	24	
#10	32'-6"	9	
#10	26'-6	12	
#10	22'-9"	27	
Total #10 Bars =			9272
806F	6'-9"	64	
#8	23'-6	64	
Total #8 Bars			5169
511F	9'-0"	3	
512F	13'-6"	46	
513F	12'-3"	140	
514F	9'-3"	36	
515F	9'-9"	36	
#5	24'-0"	8	
#5	17'-3	6	
#5	15'-0"	3	
#5	9'-3"	12	
#5	7'-9"	3	
Total #5 Bars =			3672
414F	7'-6"	42	
415F	6'-0"	63	
416F	4'-6	45	
Total #4 Bars =			598
316F	19'-6"	4	
Total ⅜" Spiral			1473
Total Reinf Steel			20184
CONCRETE			
Class 'B' in Frg. Pour No 1 (4@11.3)			45.3 CY
Class 'A' in Substr. Pour No. 2 (4@5.94)			23.7 CY
Pour No 3			19.2 CY
Pour No 4			19.1 CY
Pour No 5			16.5 CY
Pour No 6			15.1 CY
TOTAL CLASS 'A' in Substr.			93.6 CY
MISCELLANEOUS			
Anchor Plates MK-AP4			15 Ea
36-14"ø x 780. Steel Encased Conc. Piles x 20'			720 Lin Ft

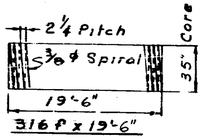












NOTES:
Spirals shall have one and one half (1½) extra turns provided at ends.
Cost of spacer bars to be included in cost of Spiral.
See Drwg S14 for General Plan
See Drwg S13 for General Notes
Anchor ℄ MK-AP4 to be Preset in Concrete.
19"ø Steel Enc. Conc. Piles to be driven to 40 Ton min. Bearing Capacity
See Br. Std. C1 for Reinf. Bar Notes
See Dwg. S22 Detail 'E' for Anchor ℄ MK-AP4 Detail.

BENT 32 W.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None JULY 3, 1969

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S25 OF S87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

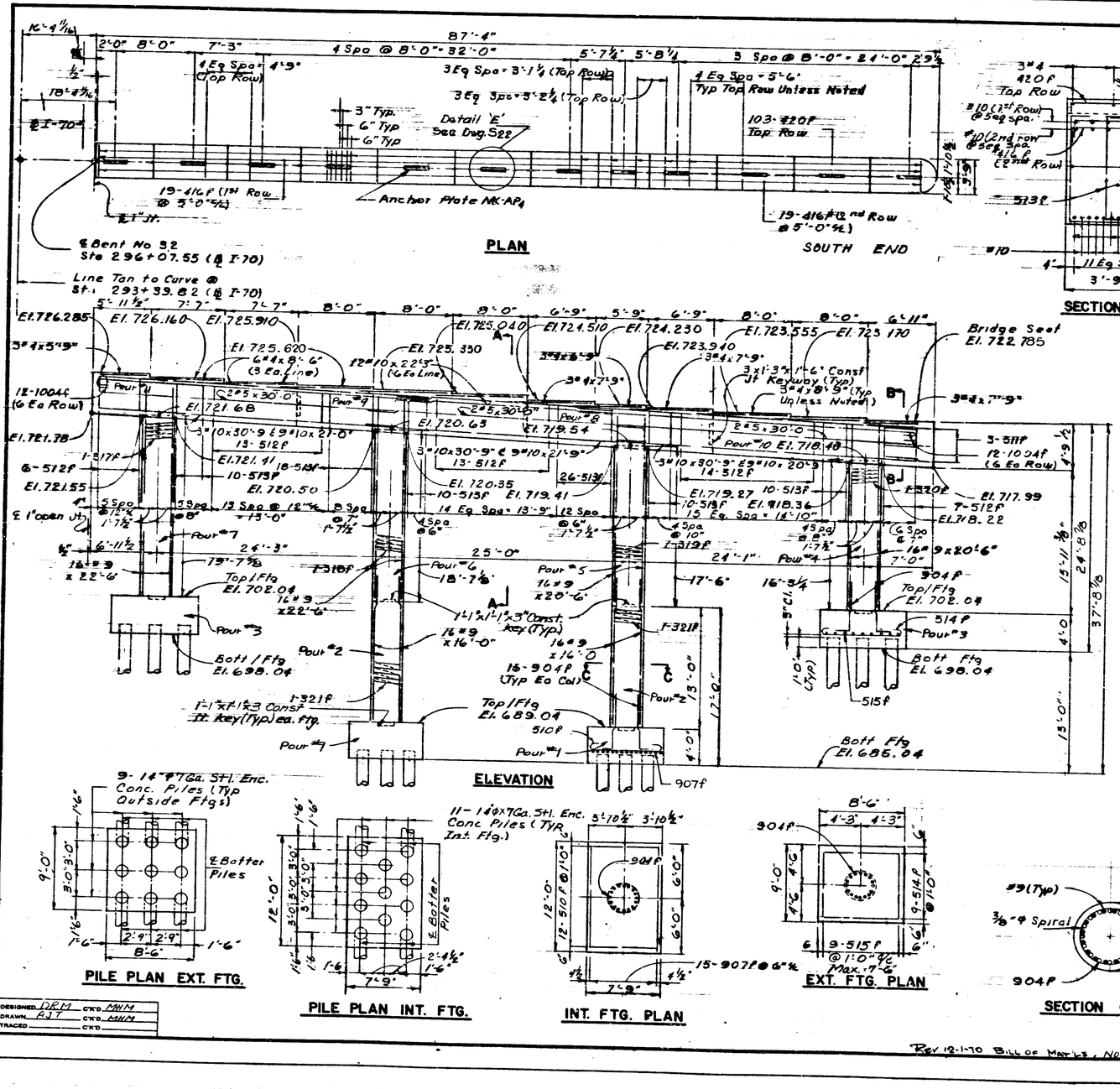
CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM C'K'D MHM
DRAWN AJT C'K'D MHM
TRACED C'K'D

Rev. 12-1-70 Bill of Mat'ls. NOTES

Rev. 12-1-70 Eng. Chg.

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



BRIDGES OVER 20' SPAN					
FED. PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)177	1970	40	118

BILL OF MATERIALS
REINFORCING STEEL

MARK OR SIZE	NO. REQD.	LENGTH	WEIGHT
1004f	24	36'-6	
10	9	20'-9	
10	12	22'-3	
10	9	21'-3	
10	9	21'-0	
10	9	20'-5	
Total #10 Bars =			8,568
907f	64	11'-3	
907f	30	14'-0"	
9	32	22'-6	
9	32	20'-6	
9	32	16'-0	
Total #9 Bars			9,425
510f	24	8'-6	
511f	3	9'-0	
514f	63	13'-6	
513f	84	12'-3	
514f	18	9'-3	
515f	16	9'-6	
5	6	30'-0"	
Total #5 Bars			2580
416f	38	4'-6	
420f	103	5'-0"	
#4	15	8'-9"	
4	6	8'-6	
4	3	7'-9	
4	3	6'-9	
4	3	5'-9	
Total #4 Bars			652
317f	1	19'-11½	
318f	1	18'-11½	
319f	1	17'-11½	
320f	1	16'-11	
321f	2	15'-11½	
Total 3/8" ϕ Spiral from I-70			
Total Reinf Steel =			21,305#

CONCRETE	
Class 'B' in Ftg.	
Pour #1, 2 Pours @ 3.77	27.6 cy
Pour #3, 2 Pours @ 11.33	22.7 cy
Total Class 'B' in Ftg.	50.3CY
Class 'A' in Superst.	
Pour #2, 2 Pours @ 3.99	8.0 cy
Pour #4	5.0 cy
Pour #5	8.3 cy
Pour #6	5.7 cy
Pour #7	6.0 cy
Pour #8	12.9 cy
Pour #9	16.6 cy
Pour #10	14.3 cy
Pour #11	14.0 cy
Total Class 'A' in Superst.	85.5 cy

MISCELLANEOUS	
Anchor ℄ MK-AP4	12 ea
40-14"ϕ 7Ga. Stl. Enc. Conc. Piles x 20'-0"	800 Lft

NOTE:
See Br. Std C1 for Reinf. Bar Notes.
Anchor ℄ MK-AP4 to be preset in concrete. See Dwg S27 Detail ℄ for Anchor ℄ MK-AP4 Detail.
14"ϕ x 7Ga Steel Enc. Conc Piles to be Driven to 40 Ton Minimum Bearing Capacity.
Spiral shall have one and one half (1½) extra turns provided at the ends, and one and one half (1½) turns at top and bottom of pile at pile cap sections. Cost of Spiral Bars to be included in cost of Spiral.

BENT 32 E.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE
JULY 3, 1969
SUBMITTED FOR APPROVAL:
DRAWING S26 OF S87
PROJECT:- I-70-3 (65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- T-70-77-2386

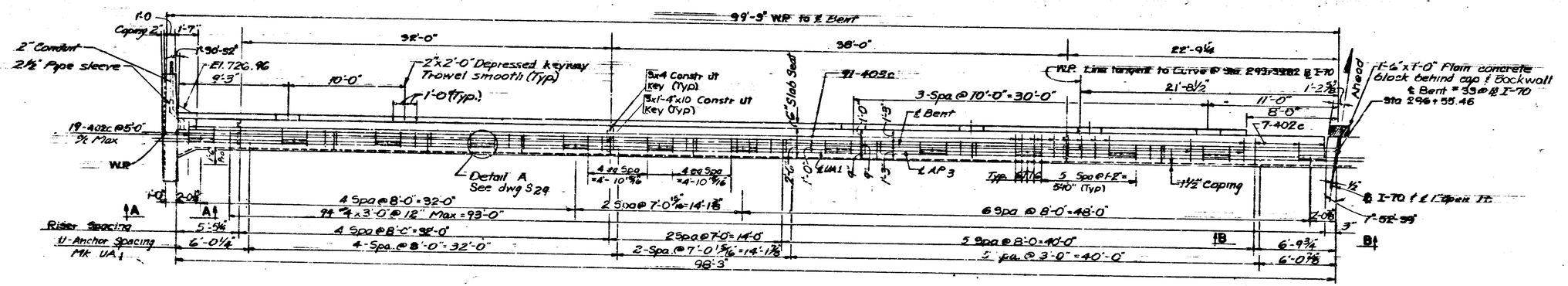
CHAS. W. COLE JR. REGISTERED No. 3453 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED DRM CK'D MHM
DRAWN RJT CK'D MHM
TRACED CK'D

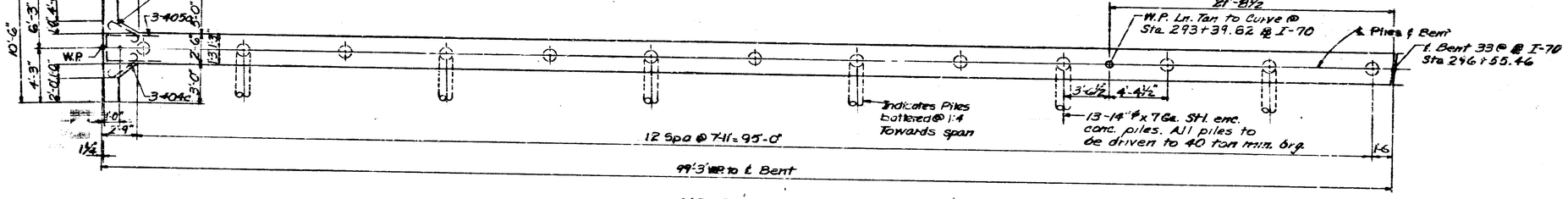
Rev 12-1-70 Bill of Mat'ls, Notes

Rev 12-1-70 Etc.; CMK 12-14-70 JCL

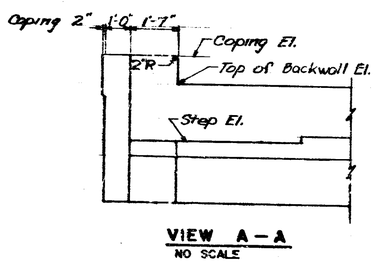
BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (68) 77	1970	41	118



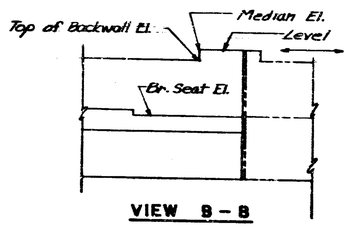
PLAN



CAP PLAN



VIEW A – A
NO SCALE



VIEW B – B

NOTE:
See Dwg. S13 for General Notes
See Dwg. S14 for General Plan
See Dwg. S28 for Additional Details
See Dwg. S29 for Additional Details
℄ Bill of materials

Anchor ℞ Mk AP3 ℄ U-Anchor Mk UA-1 to be preset in conc. For Details see Dwg. S29.

BENT NO. 33 WB. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/4" = 1'-0" UNLESS NOTED JULY 3, 1969

SUBMITTED FOR APPROVAL: Edward Gabolf

DRAWING: S27 OF S87
PROJECT: I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE: I-70-77-2306

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

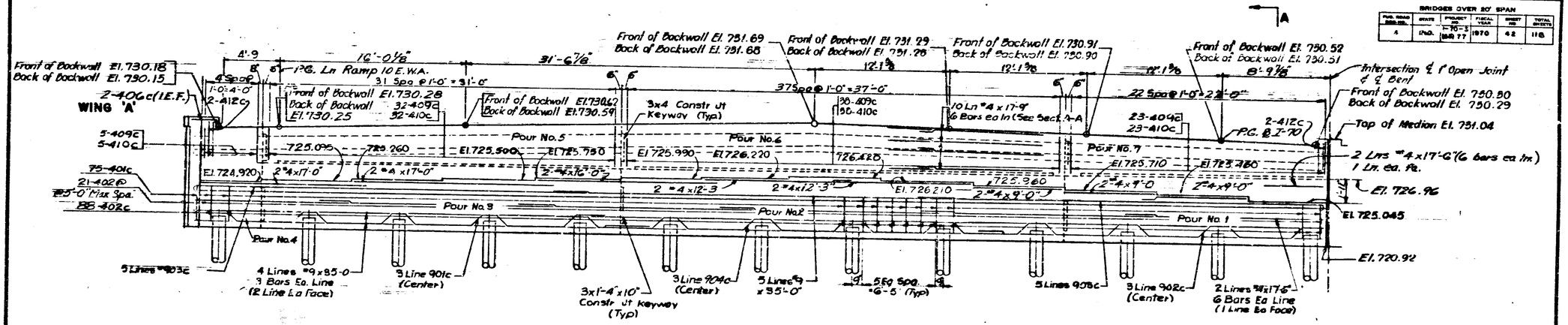
DESIGNED AVT CK'D VV
DRAWN G.T.G. CK'D CEL
TRACED CK'D

Rev. 12-1-70 EJC Chk. 12-10-70 TEC
Rev 1-14-71 EJC Chk. J.J.V.

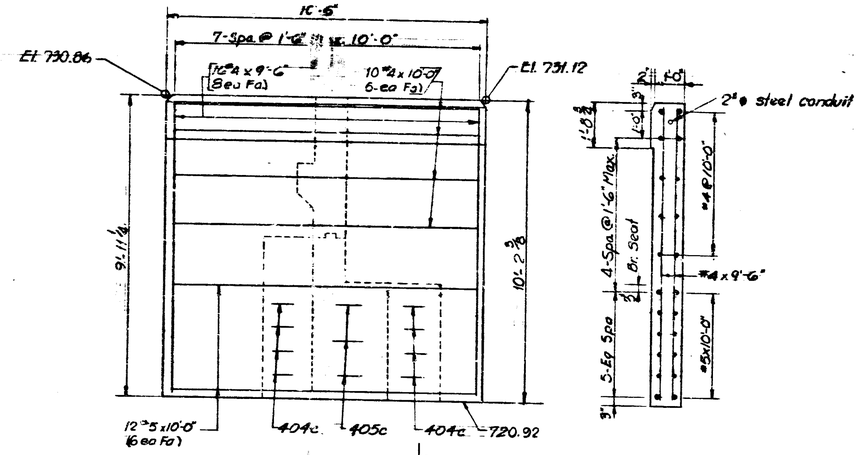
Rev 1-14-71 Notes
Rev. 12-1-70 Notes

PROJECT NO.	LINE	SHEET NO.	NOTES SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 BR 77	1970	42	118

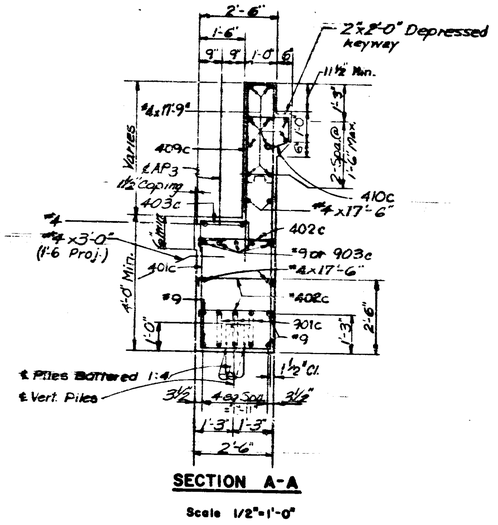


ELEVATION WESTBOUND ABUTMENT



ELEVATION 'WING 'A'

Scale 1/2"=1'-0"



SECTION A-A

Scale 1/2"=1'-0"

SECTION B-B

Scale 1/2"=1'-0"

NOTE:
See Dwg S27 for notes & Additional details.
See Dwg. S29 for Bill of Materials.

BENT NO. 33 W.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1/4"= 1'-0" UNLESS NOTED JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:-S 28 OF S 87
PROJECT:-I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:-I-70-77-2386

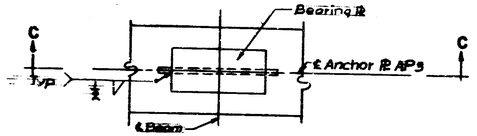
CHAS. W. COLE REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT CK'D VJ
DRAWN GEB CK'D CEL
TRACED CK'D

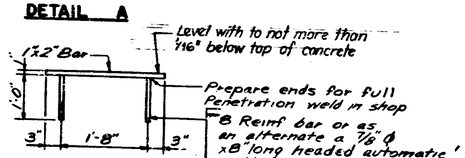
Rev 18-1-70 EJC; CHK. 12-1-70 TCC

Rev. 18-1-70 Br St. ELEV.

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

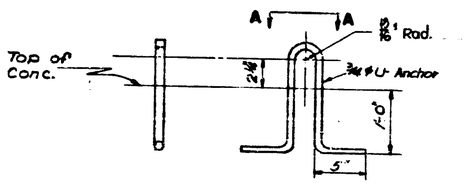


DETAIL A



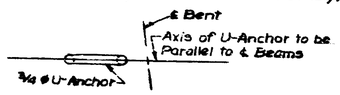
SECTION C-C

(Typ Anchor ℄ Mk APs detail)

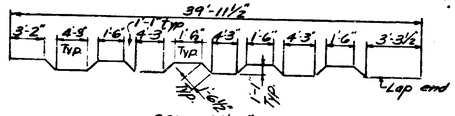


U-ANCHOR DETAIL MK UA-1

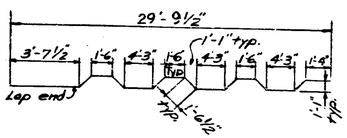
(See dwg. S 27 for Tie Down Assembly)



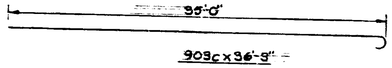
VIEW A-A



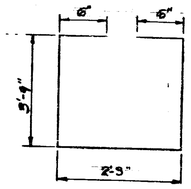
901c x 44'-0"



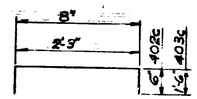
902c x 33'-0"



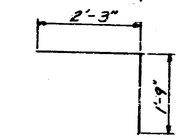
903c x 36'-9"



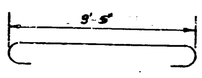
401c x 10'-9"



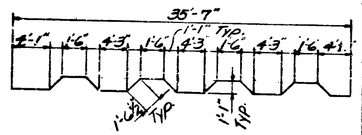
402c x 8'-3"
403c x 5'-3"



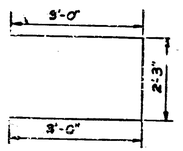
406c x 4'-0"



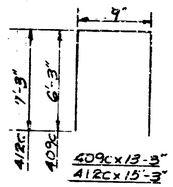
404c x 4'-6"



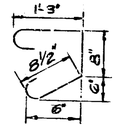
404c x 39'-3"



405c x 5'-3"



409c x 13'-3"
412c x 15'-3"



410c x 3'-9"

NOTE:
See Dwg. S27 for notes.
See Br Std. C1 for reinf. bar notes

DECK OVER 20' SPAN

FUR. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	43	115

BILL OF MATERIAL

REINFORCING STEEL

MARK or SIZE	NO. REQ'D	LENGTH	WEIGHT
901c	3	44'-0"	
902c	3	33'-0"	
903c	10	36'-3"	
904c	3	39'-3"	
Total #9 Bars			4040
#5	12	10'-9"	
Total #5 Bars			125
401c	75	10'-9"	
402c	114	3'-3"	
403c	91	5'-5"	
404c	10	4'-6"	
405c	3	8'-3"	
406c	2	4'-0"	
409c	98	13'-3"	
410c	98	3'-9"	
412c	4	15'-3"	
#4	94	3'-0"	
#4	6	9'-0"	
#4	16	9'-6"	
#4	10	10'-0"	
#4	4	12'-3"	
#4	2	16'-0"	
#4	1	17'-0"	
#4	24	17'-6"	
#4	40	17'-9"	
Total #4 Bars			3796
Total Reinf. Steel			7961 #

CONCRETE

Pour No. 1	10.3 C.Y.
Pour No. 2	17.7 C.Y.
Pour No. 3	15.2 C.Y.
Pour No. 4	7.6 C.Y.
Pour No. 5	4.9 C.Y.
Pour No. 6	7.0 C.Y.
Pour No. 7	3.7 C.Y.
Total Class "A" in Substructure	66.4 C.Y.

MISCELLANEOUS

Anchor Plate Mk AP3	13 ea
U-Anchors Mk UA1	12 ea
13-14" ø Steel Encased Conc. Piles x 35'-0" *7Ga	455 Ln Ft
2" ø Sch. Conduit (With 2½" ø Pipe Sleeve)	14 Ln. Ft.

BENT NO. 33 W.B. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE UNLESS NOTED

JULY 3, 1969

SUBMITTED FOR APPROVAL: Edward Read

DRAWING:- S29 OF S67
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3683 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT CK'D VJ
DRAWN GFS CK'D CEH
TRACED CK'D

Rev 12-1-70 Bill of Mat'ls

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev 12-1-70 E.S.; Rev. 12-10-70 E.S.

BRIDGES OVER 20' SPAN					
FED. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	44	115

Rev 12-1-70 EJC CHK 12-10-70 TCC

Rev 12-1-70 NOTES

DESIGNED AJT C'K'D WJ
DRAWN KAC C'K'D MHM
TRACED C'K'D

BENT 33 E.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

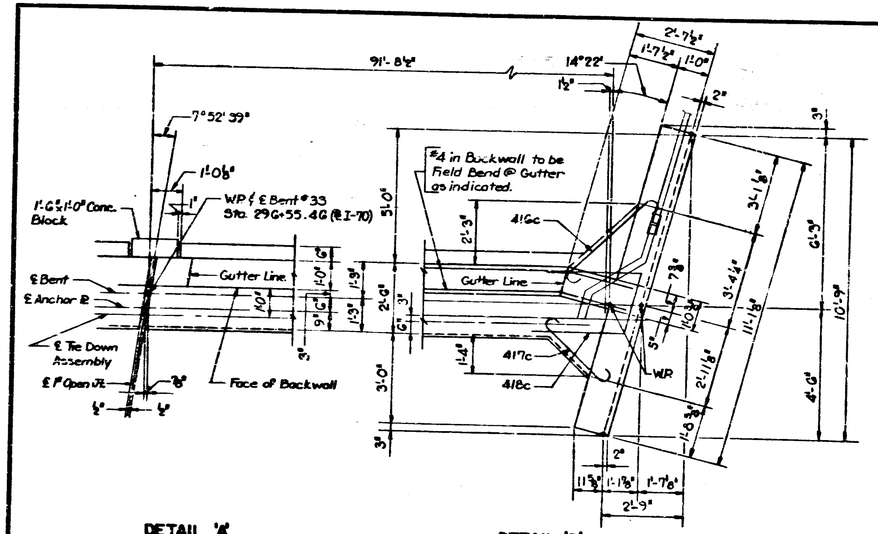
JULY 3, 1969

SUBMITTED FOR APPROVAL:- Charles Cole Jr

DRAWING:- S-300F S-87
PROJECT:- I-70-3(66)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

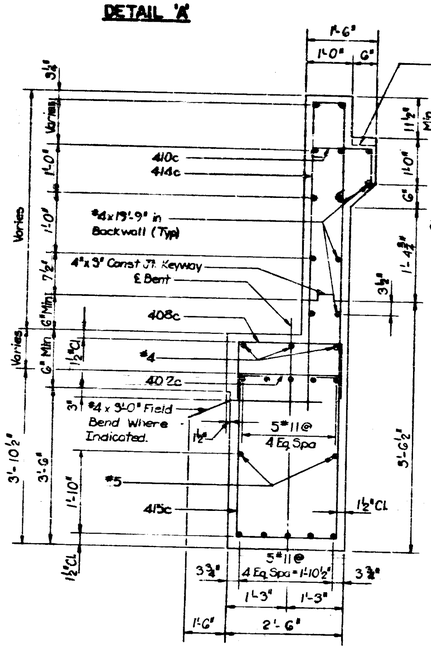
CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

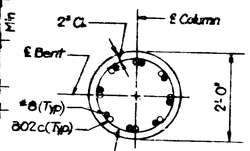


DETAIL 'A'

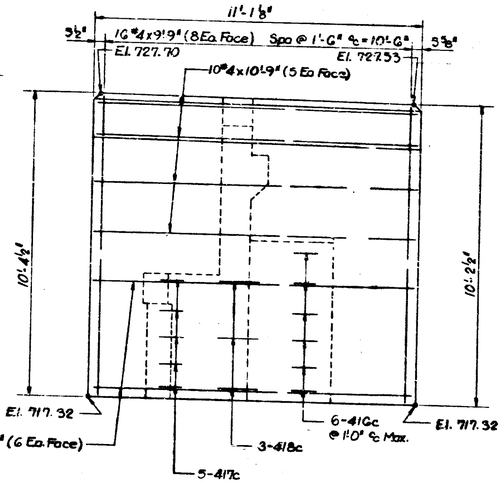
DETAIL 'B'



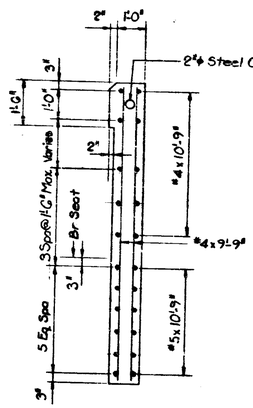
SECTION A-A



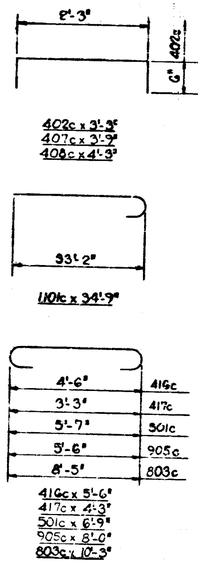
SECTION B-B



WING 'B'



END ELEVATION



BRIDGES OVER 20' SPAN					
FHWA Region 8 Dist. 132	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	45	118

BILL OF MATERIAL REINFORCING STEEL

MARK OR SIZE	NO. REQ'D	LENGTH	WEIGHT
110lc.	34'-9"	10	
#11	33'-0"	11	
#11	23'-9"	9	
Total #11 Bars			4,911#
905c	8'-0"	36	
Total #9 Bars			979#
802c	5'-9"	32	
803c	10'-3"	24	
#8	23'-6"	8	
#8	22'-6"	8	
#8	21'-3"	8	
#8	20'-0"	8	
#8	18'-6"	16	
Total #8 Bars			3,717#
501c	6'-9"	18	
#5	24'-3"	8	
#5	10'-9"	12	
Total #5 Bars			464#
402c	3'-9"	17	
407c	3'-9"	52	
408c	4'-3"	29	
410c	3'-9"	89	
413c	14'-9"	4	
414c	13'-3"	89	
415c	10'-9"	68	
416c	5'-6"	6	
417c	4'-3"	5	
418c	7'-3"	3	
#4	19'-9"	60	
#4	11'-6"	6	
#4	10'-9"	10	
#4	10'-3"	3	
#4	9'-3"	21	
#4	3'-0"	98	
#4	9'-9"	16	
Total #4 Bars			3,185#
301c	13'-10"	2	
302c	16'-8"	1	
303c	18'-0"	1	
304c	19'-2"	1	
305c	20'-0"	1	
Total 3/8" ϕ Spiral			1,221#
Total Reinforcing Steel			14,479#

BILL OF MATERIAL CONT'D CONCRETE

Class 'B' in Footing	
Pour #1 2@ 5.5 cy	11.0 cy
Pour #2 2@ 3.7 cy	7.4 cy
Total Class 'B' in Ftg.	18.4 cy
Class 'A' in Substructure	
Pour #3 2@ 1.6 cy	3.2 cy
Pour #4	2.3 cy
Pour #5	2.2 cy
Pour #6	2.1 cy
Pour #7	1.9 cy
Pour #8	15.5 cy
Pour #9	14.8 cy
Pour #10	11.2 cy
Pour #11	8.4 cy
Pour #12	5.2 cy
Pour #13	5.7 cy
Pour #14	4.4 cy
Total Class 'A' in Substr.	74.9 cy

MISCELLANEOUS

Anchor Bt Mk AP3	12 Ea
U-Anchor Mk UA1	11 Ea
20-14"ϕ 7Ga. Steel Encased Concrete Piles @ 20'-0"	400 Lin Ft
2"ϕ Steel Conduit (w/ 4 2½ ϕ Pipe Sleeves)	14 Lin Ft

BENT 33 E.B. DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL:- Chas W Cole

DRAWING:- S-31 OF S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

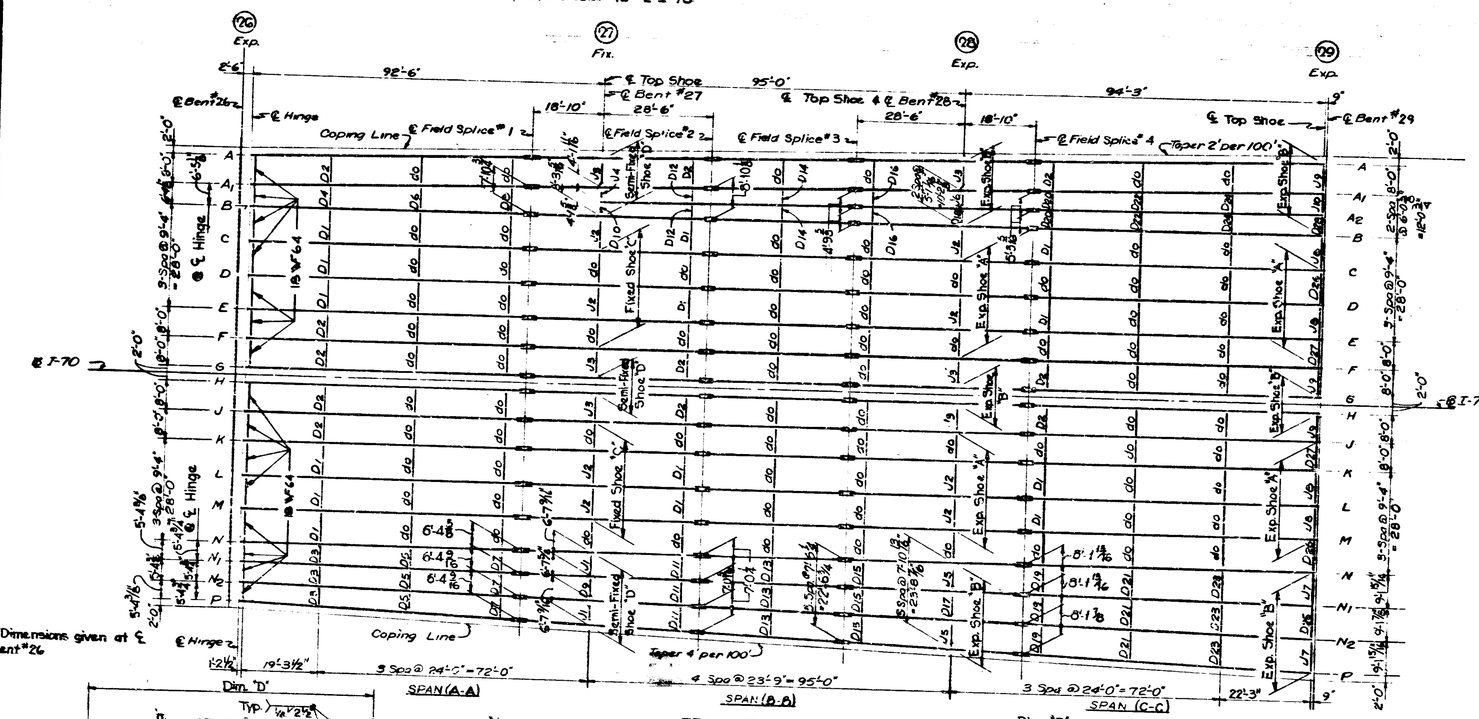
DESIGNED ATT C'K'D VJ
DRAWN KAC C'K'D MHM
TRACED C'K'D

Rev 12-1-70 Bill of Mat'ls

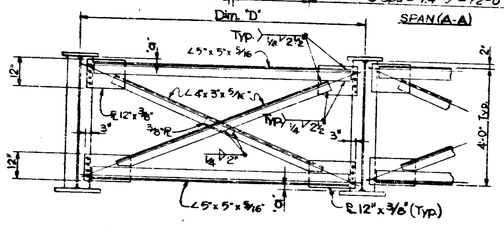
Rev 12-1-70 Etc.; CHK. 12-10-70 TEC

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

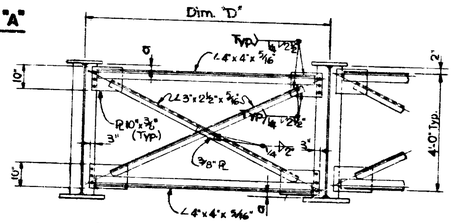
Note:
Dimensions shown on Framing Plan are either parallel or prependicular to ℄ I-70.



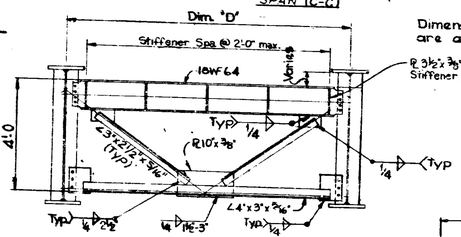
FRAMING PLAN
Scale: 1/16" = 1'-0"



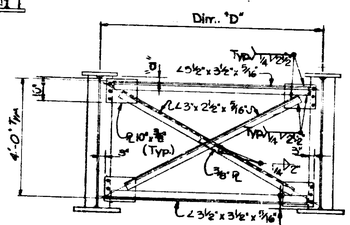
INT. DIAPHRAGM TYPE "A"
Scale: 1/2" = 1'-0"



INT. DIAPHRAGM TYPE "B"
Scale: 1/2" = 1'-0"



END DIAPHRAGM TYPE "E"
Scale: 1/2" = 1'-0"



INT. DIAPHRAGM TYPE "C"
Scale: 1/2" = 1'-0"

Dimensions given at Bent #29 are at ℄ top shoe.

Rev 8-10-71 Str. Steel Quantity
Rev 12-1-70 Str. Steel

BRIDGES OVER 20' SPAN

FHWA ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	46	118

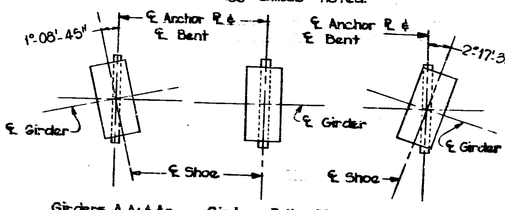
TABLE OF DIAPHRAGM TYPES

Diaph. No.	Type	Dim. D	Diaph. No.	Type	Dim. D
D1	A	9'-4"	D15	C	7'-7 11/16"
D2	B	8'-0"	D16	C	4'-10 3/16"
D3	C	5'-6 1/16"	D17	C	7'-10 13/16"
D4	C	6'-10"	D18	C	5'-1 11/16"
D5	C	6'-0 1/16"	D19	B	8'-2 11/16"
D6	C	7'-9 13/16"	D20	C	5'-3 15/16"
D7	C	6'-3 13/16"	D21	B	8'-6 9/16"
D8	C	7'-9 5/8"	D22	C	5'-6 15/16"
D9	C	6'-7 5/16"	D23	B	8'-10 3/8"
D10	C	4'-1 5/8"	D24	C	5'-9 11/16"
D11	C	6'-11 7/16"	D25	E	9'-1 7/8"
D12	C	4'-4 1/2"	D26	E	9'-4"
D13	C	7'-3 1/16"	D27	E	8'-0"
D14	C	4'-7 5/16"	D28	E	6'-0 3/8"

E.B.	W.B.	SPANS A-A B-B & C-C	E.B.	W.B.
540,000	540,000	Est. Weight of Structural Steel =	~~495,400~~	~~495,500~~
3,900	3,900	Includes A514 =	~~2600~~	~~2600~~
5,100	5,100	A572-50 =	~~2450~~	~~2450~~
		Bronze P. =	560	560

Notes:
See Dwg. S46 for Design Data & Structural Steel Notes.
See Dwg. S44 for Details of Jacking Girders J1 thru J10.
See Dwg. S38, 39 & 40 for Girder Details.
See Dwg. S13 for General Notes.
See dwg. S35 for Table of Shims.
See Dwg. S36 for Shoe Details.
All diaphragms are set at right angles to ℄ Rdwy.
Dimension "a" is equal (± 1")
See dwg's S41, 42 & 43 for Splice Details & Hinge Assy.

All Structural Steel in Spans A-A, B-B and C-C to be A36 unless noted.



ANCHOR PLATE & SHOE CONNECTION DETAILS

FRAMING PLAN
I-70 OVER PENN.CENT. & DAKOTA STREET
INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Noted
JULY 5, 1969
SUBMITTED FOR APPROVAL:
DRAWING:- S32 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-3386

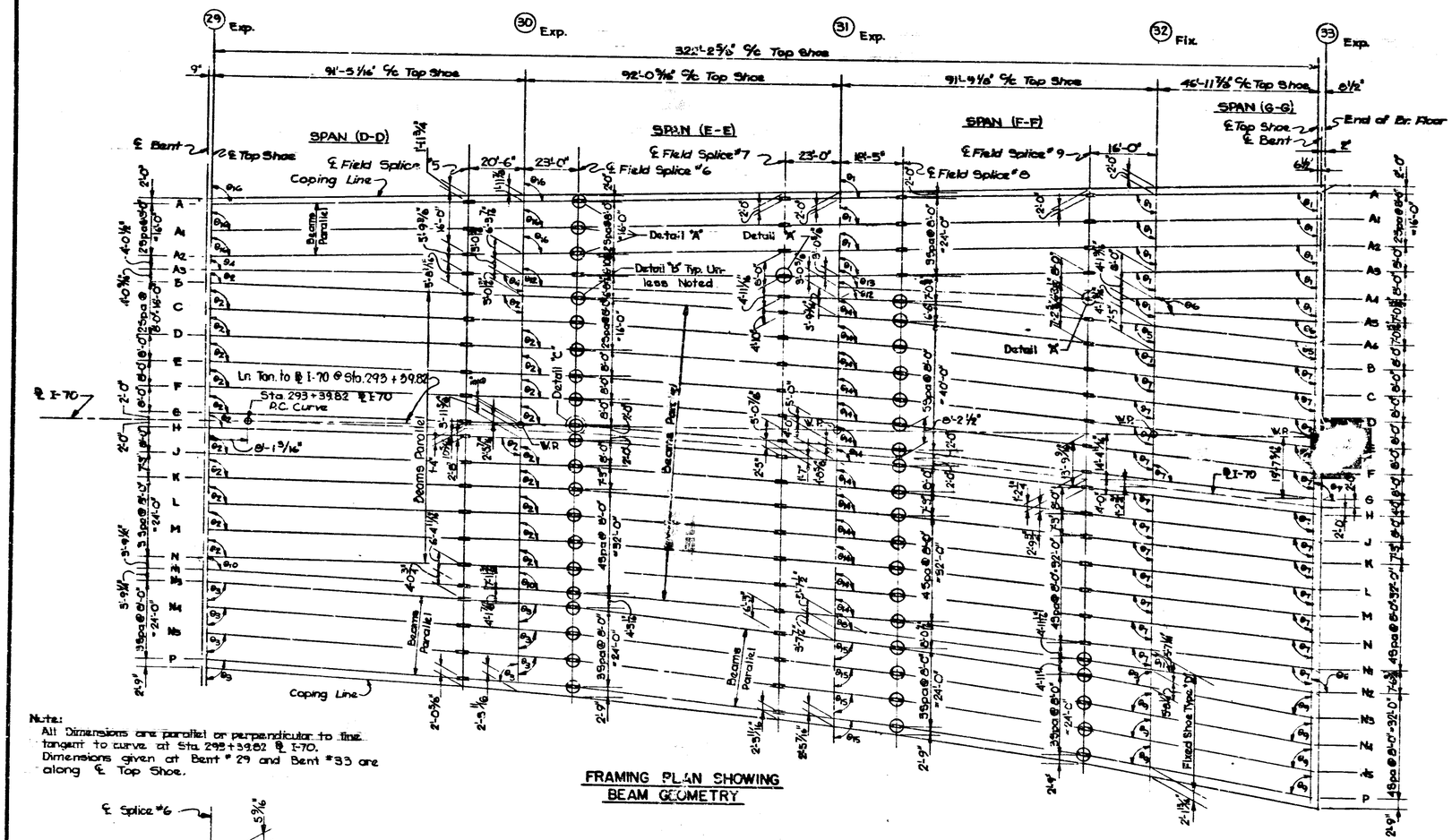
CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AMT CK'D
DRAWN DPM CK'D LMM
TRACED CK'D

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

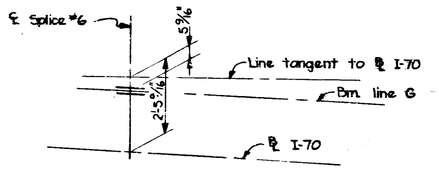
Rev 12-1-70 EJC; JCMK 12-10-70 TCC

BRIDGES OVER 20' SPAN					
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	47	115

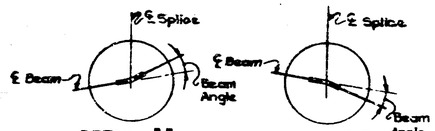


FRAMING PLAN SHOWING BEAM GEOMETRY

Notes:
All Dimensions are parallel or perpendicular to line tangent to curve at Sta. 293+39.82 ℄ I-70.
Dimensions given at Bent # 29 and Bent #33 are along ℄ Top Shoe.



DETAIL "C"



DETAIL "A" DETAIL "B"

ANGLE DEVIATION AT FIELD SPLICES

Field Splice No.	Beam No.	Detail	Beam Angle
6	B	B	2°-31'-28.4"
"	C	"	"
"	D	"	"
"	E	"	"
"	F	"	"
"	G	"	"
"	H	"	"
"	J	"	"
"	K	"	"
"	L	"	"
"	M	"	"
"	N	"	"
"	N1	"	"
"	N2	"	"
"	N3	"	"
"	N4	"	"
"	N5	"	"
"	P	"	"
7	A2	A	2°-31'-25.4"
"	A1	A	0°-24'-37.7"
"	A	A	2°-36'-00.5"
"	A	B	"
"	A	C	"
"	A	D	"
7A	A	D	1°-25'-51.0"
"	A	E	4°-12'-08.2"
"	A	F	2°-36'-25.3"
"	A	G	"
"	A	H	"
"	A	J	"
"	A	K	"
"	A	L	"
"	A	M	"
"	A	N	"
"	A	N1	"
"	A	N2	"
"	A	N3	"
"	A	N4	"
"	A	N5	"
"	A	P	"
8	N2	A	1°-54'-11.3"
"	N3	A	"
"	N4	A	"
"	N5	A	"
"	P	A	"
9	N2	B	2°-01'-26.2"
"	N3	B	3°-19'-01.7"
"	N4	B	"
"	N5	B	"
"	P	B	"
6	A4	A	3°-44'-22.0"
"	A	A	0°-01'-30.9"
"	A1	A	"
"	A2	A	"

Reference Notes:
See Dwg. S46 for Design Data and Structural Steel Notes.
See Dwg. S45 & S46 for Beam Details.
See Dwg. S13 for General Notes.
See Dwg. S34 for Diaphragm Location.
See Dwg. S37 for Shoe Details.

θ1 = 88°-29'-28"
θ2 = 91°-14'-00.2"
θ3 = 86°-24'-38.9"
θ4 = 89°-55'-19.0"
θ5 = 95°-34'-29.0"
θ6 = 92°-04'-55.8"
θ7 = 96°-21'-51.9"
θ8 = 96°-42'-03.2"
θ9 = 78°-33'-23.6"
θ10 = 93°-20'-50.9"
θ11 = 98°-43'-29.4"
θ12 = 91°-27'-20.8"
θ13 = 92°-13'-50.0"
θ14 = 93°-45'-28.6"
θ15 = 83°-46'-38.6"
θ16 = 88°-30'-58.9"

GEOMETRIC FRAMING PLAN

I-70 OVER PENN CENTRAL & DAKOTA STREET

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S35 OF S87

PROJECT:- I-70-3(65)77

BRIDGE CONTRACT NO. B-7924

BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

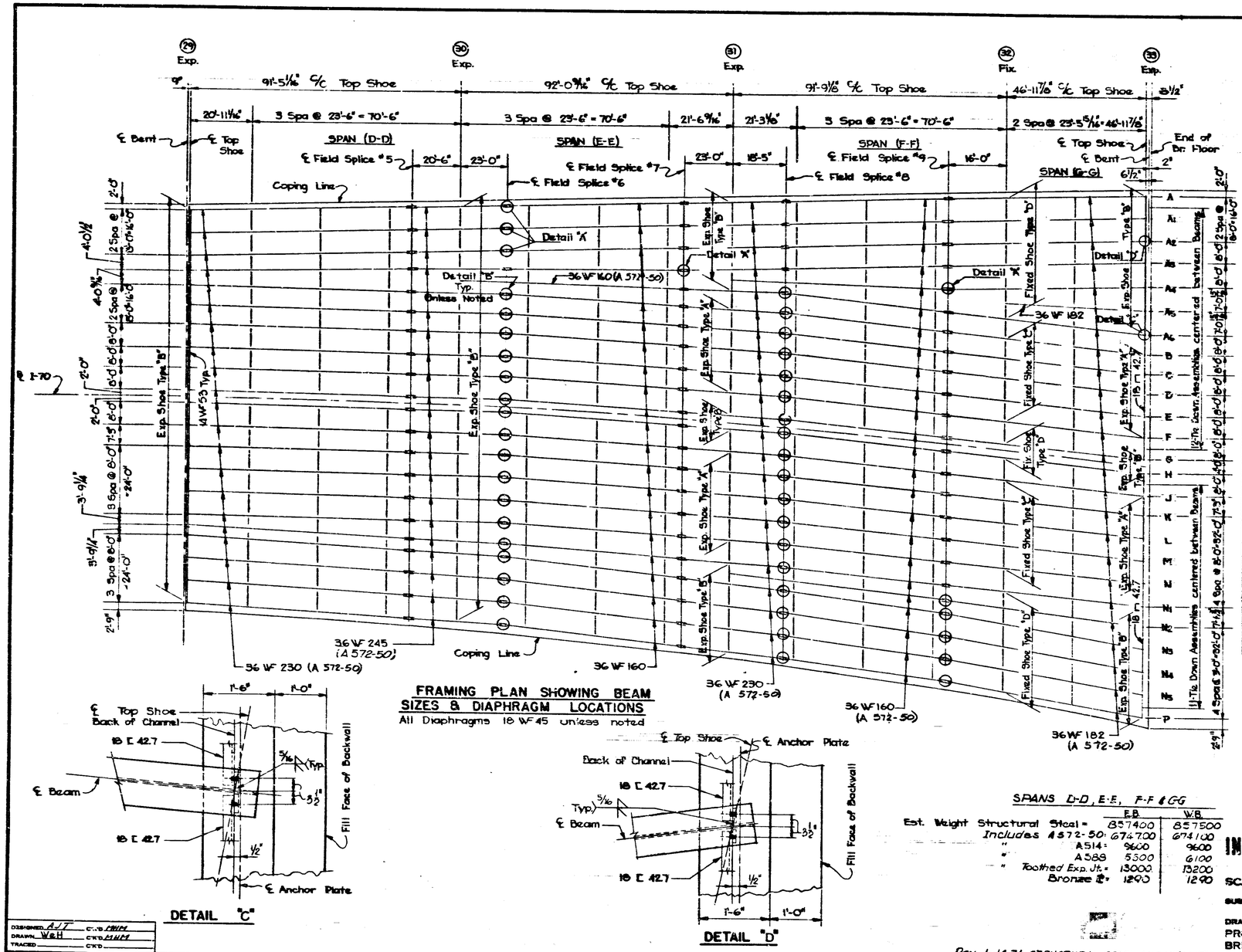
DESIGNED ____ CK'D AMH

DRAWN W&H CK'D AMH

TRACED ____ CK'D ____

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FHWA ROAD CLASS.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-5 (89)-77	1970	48	118

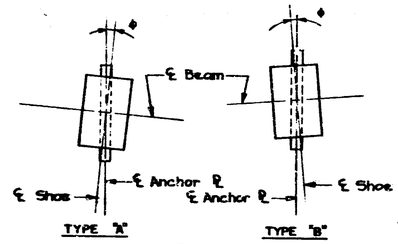


FRAMING PLAN SHOWING BEAM SIZES & DIAPHRAGM LOCATIONS

All Diaphragms 18 WF 45 unless noted

DETAIL "C"

DETAIL "D"



ANCHOR ℄ & SHOE CONNECTION DETAILS

TABLE FOR ANCHOR ℄ AND SHOE CONNECTIONS

Beam	Type	Angle ∢ Bent #29	Bent #30	Bent #31	Bent #32	Bent #33
A	B	1° 29'-01.1"	1° 29'-01.1"	1° 30'-32"	1° 30'-32"	1° 30'-58"
A1	B	"	"	"	"	"
A2	B	"	"	"	"	"
A3	B	0° 04'-41.0"	0° 04'-41.0"	"	"	"
A4	A (1° 29'-01.1" & 1° 30'-32")	—	—	2° 19'-50"	"	"
A5	A	—	—	—	2° 04'-55.8"	2° 04'-55.8"
A6	A	—	1° 27'-20.8"	1° 27'-20.8"	5° 39'-29"	5° 39'-29"
B	A	1° 14'-00.2"	1° 14'-00.2"	3° 45'-28.6"	6° 21'-51.9"	6° 21'-54.9"
C	A	"	"	"	"	"
D	A	"	"	"	"	"
E	A	"	"	"	"	"
F	A	"	"	"	"	"
G	A	"	"	"	"	"
H	A	"	"	"	"	"
J	A	"	"	"	"	"
K	A	"	"	"	"	"
L	A	"	"	"	"	"
M	A	"	"	"	"	"
N	A	"	"	"	"	"
N1	A	3° 20'-50.9"	3° 20'-50.9"	"	"	"
N2	A	—	—	6° 48'-03.2"	8° 43'-29.4"	8° 45'-29.6"
N3	A	3° 35'-21.1"	3° 35'-21.1"	6° 13'-21.4"	11° 26'-34.4"	11° 26'-34.4"
N4	A	"	"	"	"	"
N5	A	"	"	"	"	"
P	A	"	"	"	"	"

NOTES
See Dwg. S48 for Tie Down Assembly Details.
See Dwg. S46 for Design Data & Structural Steel Notes.
See Dwg. S45 & S46 for Beam Details.
See Dwg. S43 for General Notes.
See Dwg. S37 for Shoe Details.
See Dwg. S 99 for Geometric Framing Plan & Details 'A' & 'B'.
All Structural Steel to be ASTM A-36 Unless otherwise noted.

SPANS D-D, E-E, F-F & GG

Est. Weight Structural Steel =	E.B.	W.B.
Includes A 572-50:	674700	674100
" A514:	9600	9600
" A588	5500	6100
" Toothed Exp. Jt. =	13000	13200
Bronze ℄ =	1290	1290
	857400	857500

Rev. 1-14-71 STRUCTURAL STEEL AND WEIGHT.
Rev. 12-1-70 STRUCTURAL STEEL

FRAMING PLAN

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- 534 OF 587
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. LOLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED A.J.T. C'KD HMM
DRAWN W&H C'KD HMM
TRACED C'KD

Rev. 12-1-70 E&S; C'MK. 12-10-70 TCC
Rev. 1-14-71 F/C; C'MK. U.J.W.

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev. 12-1-70 EJG; CHK. 12-10-70 TEC

TABLE OF SHIMS

	Bent 27			Bent 28			Bent 29 (Span C-C)			Bent 29 (Span D-D)			Bent 30			Bent 31			Bent 32			Bent 33		
	A	B	†	A	B	†	A	B	†	A	B	†	A	B	†	A	B	†	A	B	†	A	B	†
A	1'-6"	4½"	½"	1'-4"	4"	½"	1'-0"	1½"	11/16"	1'-4½"	4¾"	5/8"	1'-4½"	4½"	9/16"	1'-4½"	4½"	½"	1'-1"	3"	13/16"	1'-0"	2½"	9/16"
A1	1'-6"	4½"	½"	1'-4"	4"	1"	1'-0"	1½"	11/16"	1'-4½"	4¾"	1"	1'-4½"	4½"	11/16"	1'-4½"	4½"	9/16"	1'-1"	3"	7/8"	1'-0"	2½"	¼"
A2	1'-2"	2½"	1 11/16"	1'-2"	3"	1"	1'-0"	1½"	13/16"	1'-4½"	4¾"	13/16"	1'-4½"	4½"	9/16"	1'-4½"	4½"	11/16"	1'-1"	3"	9/16"	1'-0"	2½"	9/16"
A3	—	—	—	—	—	—	—	—	—	1'-4½"	4¾"	13/16"	1'-4½"	4½"	9/16"	1'-4½"	4½"	11/16"	1'-1"	3"	9/16"	1'-0"	2½"	9/16"
A4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1'-0"	2¼"	1 5/16"	1'-1"	3"	½"	1'-0"	2½"	½"
A5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1'-1"	3"	1 13/16"	1'-0"	2½"	½"
A6	—	—	—	—	—	—	—	—	—	—	—	—	1'-0"	2¼"	1 5/16"	1'-4½"	4½"	½"	1'-1"	3"	1 ¼"	1'-0"	2½"	5/8"
B	1'-4"	3½"	9/16"	1'-4"	4"	1 3/16"	1'-0"	1½"	11/16"	1'-4½"	4¾"	7/8"	1'-4½"	4½"	1 5/8"	1'-4½"	4½"	½"	1'-1"	3"	1 5/8"	1'-0"	2½"	1 9/16"
C	1'-4"	3½"	1 3/16	1'-4"	4"	1¾"	1'-0"	1½"	7/8"	1'-4½"	4¾"	9/16"	1'-4½"	4½"	9/16"	1'-4½"	4½"	5/8"	1'-1"	3"	1 11/16"	1'-0"	2½"	1 1/16"
D	1'-4"	3½"	1"	1'-4"	4"	9/16	1'-0"	1½"	11/16"	1'-4½"	4¾"	9/16"	1'-4½"	4½"	15/16"	1'-4½"	4½"	9/16"	1'-1"	3"	1"	1'-0"	2½"	7/8"
E	1'-4"	3½"	7/8"	1'-4"	4"	5/8"	1'-0"	1½"	5/8"	1'-4½"	4¾"	½"	1'-4½"	4½"	15/16"	1'-4½"	4½"	13/16"	1'-1"	3"	15/16"	1'-0"	2½"	¾"
F	1'-6"	4½"	1 ¾"	1'-4"	4"	¾"	1'-0"	1½"	5/8"	1'-4½"	4¾"	½"	1'-4½"	4½"	11/16"	1'-4½"	4½"	15/16"	1'-1"	3"	15/16"	1'-0"	2½"	13/16"
G	1'-6"	4½"	7/8"	1'-4"	4"	9/16"	1'-0"	1½"	5/8"	1'-4½"	4¾"	½"	1'-4½"	4½"	9/16"	1'-4½"	4½"	½"	1'-1"	3"	9/16"	1'-0"	2½"	11/16"
H	1'-6"	4½"	5/8"	1'-4"	4"	½"	1'-0"	1½"	1 7/8"	1'-4½"	4¾"	5/8"	1'-4½"	4½"	½"	1'-4½"	4½"	11/16"	1'-1"	3"	11/16"	1'-0"	2½"	1 1/16"
J	1'-6"	4½"	1 7/8"	1'-4"	4"	11/16"	1'-0"	1½"	11/16"	1'-4½"	4¾"	13/16"	1'-4½"	4½"	3/4"	1'-4½"	4½"	9/16"	1'-1"	3"	11/16"	1'-0"	2½"	1 1/16"
K	1'-4"	3½"	1½"	1'-4"	4"	1 1/16"	1'-0"	1½"	9/16"	1'-4½"	4¾"	5/8"	1'-4½"	4½"	5/8"	1'-4½"	4½"	13/16"	1'-1"	3"	1/2"	1'-0"	2½"	11/16"
L	1'-4"	3½"	½"	1'-4"	4"	7/8"	1'-0"	1½"	5/8"	1'-4½"	4¾"	½"	1'-4½"	4½"	9/16"	1'-4½"	4½"	¾"	1'-1"	3"	9/16"	1'-0"	2½"	11/16"
M	1'-4"	3½"	9/16"	1'-4"	4"	5/8"	1'-0"	1½"	¾"	1'-4½"	4¾"	9/16"	1'-4½"	4½"	9/16"	1'-4½"	4½"	11/16"	1'-1"	3"	9/16"	1'-0"	2½"	½"
N	1'-4"	3½"	5/8"	1'-4"	4"	15/16"	1'-0"	1½"	1 1/8"	1'-4½"	4¾"	5/8"	1'-4½"	4½"	5/8"	1'-4½"	4½"	5/8"	1'-1"	3"	5/8"	1'-0"	2½"	9/16"
N1	1'-4"	3½"	7/8"	1'-4"	4"	½"	1'-0"	1½"	1 1/16"	1'-4½"	4¾"	11/16"	1'-4½"	4½"	1¾"	1'-4½"	4½"	5/8"	1'-1"	3"	5/8"	1'-0"	2½"	9/16"
N2	1'-4"	3½"	13/16	1'-4"	4"	7/8"	1'-0"	1½"	1 1/16"	—	—	—	—	—	—	1'-0"	2¼"	1 13/16	1'-1"	3"	15/16"	1'-0"	2½"	15/16"
N3	—	—	—	—	—	—	—	—	—	1'-4½"	4¾"	¾"	1'-4½"	4½"	11/16"	1'-4½"	4½"	½"	1'-1"	3"	13/16"	1'-0"	2½"	1 9/16"
N4	—	—	—	—	—	—	—	—	—	1'-4½"	4¾"	5/8"	1'-4½"	4½"	5/8"	1'-4½"	4½"	½"	1'-1"	3"	¾"	1'-0"	2½"	1 1/8"
N5	—	—	—	—	—	—	—	—	—	1'-4½"	4¾"	7/8"	1'-4½"	4½"	9/16"	1'-4½"	4½"	½"	1'-1"	3"	5/8"	1'-0"	2½"	1 1/16"
P	1'-4"	3½"	5/8"	1'-4"	4"	½"	1'-0"	1½"	½"	1'-4½"	4¾"	5/8"	1'-4½"	4½"	9/16"	1'-4½"	4½"	¾"	1'-1"	3"	9/16"	1'-0"	2½"	½"

NOTE:
Splice elevations are with falsework removed and carrying steel dadload only. Top of beam splice plates shall be adjusted to the below elevations before bolting field splices.

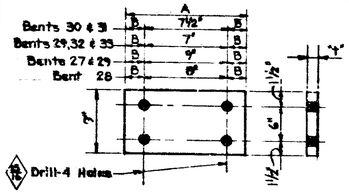
BRIDGES OVER 20' SPAN

F.H. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (66)77	1970	49	118

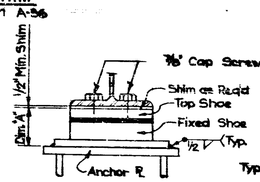
TABLE OF TOP SPLICE ℄ ELEVATIONS

Girder	Spl. #1	Spl. #2	Spl. #3	Spl. #4
A	727.910	728.465	728.980	729.755
A1	728.075	728.630	729.150	729.925
A2	———		729.280	730.025
B	728.290	728.880	729.365	730.115
C	728.400	728.960	729.380	730.130
D	728.465	728.900	729.330	723.008
E	728.475	728.845	729.235	729.855
F	728.350	728.705	729.065	729.635
G	728.205	728.550	728.900	729.450
H	728.205	728.690	729.030	729.650
J	728.340	728.670	729.010	729.560
K	728.425	728.670	728.965	729.415
L	728.365	728.560	728.815	729.200
M	728.250	728.405	728.625	729.020
N	728.095	728.210	728.410	728.750
N1	727.970	728.050	728.230	728.550
N2	727.785	727.905	728.075	728.380
P	727.655	727.760	727.915	728.210

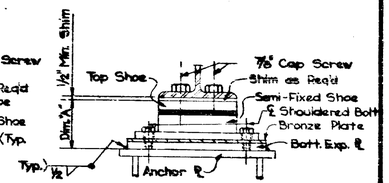
Beam	Spl. #5	Spl. #6	Spl. #7	Spl. #8	Spl. #9
A	731.095	731.205	731.230	731.140	730.890
A1	731.260	731.370	731.395	731.310	730.860
A2	731.425	731.540	731.560	731.580	731.025
A3	731.535	731.715	731.750	731.650	731.195
A4	———	———	———	———	731.370
A5	———	———	———	———	———
A6	———	———	731.880	731.820	731.505
B	731.545	731.730	731.830	731.830	731.475
C	731.255	731.455	731.485	731.460	731.165
D	730.980	731.126	731.145	731.140	730.850
E	730.690	730.795	730.805	730.795	730.545
F	730.380	730.455	730.445	730.450	730.235
G	730.075	730.115	730.110	730.105	729.925
H	730.525	730.625	730.630	730.625	730.385
J	730.235	730.285	730.285	730.275	730.080
K	729.970	729.960	729.970	729.960	729.800
L	729.670	729.645	729.625	729.620	729.509
M	729.365	729.305	729.290	729.280	729.200
N	729.050	728.965	728.940	728.930	728.900
N1	728.865	728.735	728.690	728.646	728.550
N2	728.770	728.650	———	———	728.325
N3	728.710	728.705	728.525	728.395	728.105
N4	728.560	728.435	728.265	728.105	727.730
N5	728.320	728.170	727.960	727.770	727.355
P	728.075	727.895	727.655	727.435	726.975



SHIM
ASTM A-36



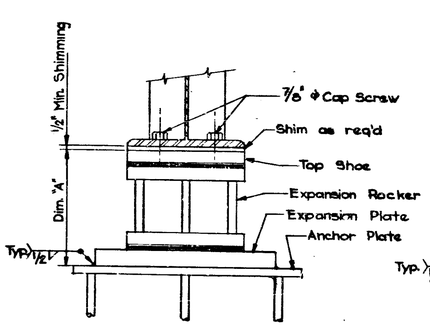
SHOE ASSEMBLY
FIXED SHOE "C"



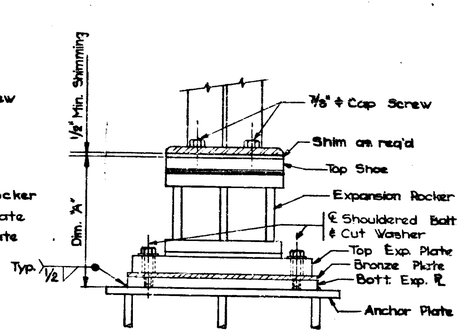
SHOE ASSEMBLY
SEMI-FIXED SHOE "D"

TABLE OF SHOE TYPES

Shoe Type	Bent No.	A.P. Type	Dim. "A"	Girders or Beams
D	27	AP5	10¼"	A, A1, A2, B, C, H, N, N1, N2 & P
C	27	AP5	8¼"	C, D, E, F, J, K, L & M
B	28	AP5	1'-5¼"	A, A1, A2, B, G, H, N, N1, N2 & P
A	28	AP5	1'-3½"	C, D, E, F, J, K, L & M
B	29 (Span C-C)	AP4	1'-9¼"	A, A1, A2, B, G, H, N, N1, N2 & P
A	29 (Span C-C)	AP4	1'-7½"	C, D, E, F, J, K, L & M
B	29 (Span D-D)	AP4	1'-5"	A thru P
B	30	AP4	1'-5"	A thru P
B	31	AP4	1'-5"	A, A1, A2, A3, A4, A6, G, H, N1, N2, N3, N4, N5 & P
A	31	AP4	1'-3"	B, C, D, E, F, J, K, L, M & N
D	32	AP4	10"	A, A1, A2, A3, A4, A5, A6, G, H, N1, N2, N3, N4, N5 & P
C	32	AP4	8"	B, C, D, E, F, J, K, L, M & N
B	33	AP3	1'-5"	A, A1, A2, A3, A4, A5, A6, G, H, N1, N2, N3, N4, N5 & P
A	33	AP3	1'-3"	B, C, D, E, F, J, K, L, M & N



SHOE ASSEMBLY
EXPANSION SHOE "A"



SHOE ASSEMBLY
EXPANSION SHOE "B"

Note: See Dwgs. S36 & S37 for Shoe Details.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL: _____

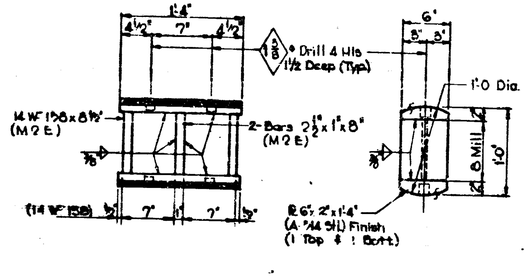
DRAWING:- S36 OF S 67
PROJECT:- I-70-3(66)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT CK'D MHM
DRAWN WEH CK'D LEL
TRACED ——— CK'D ———

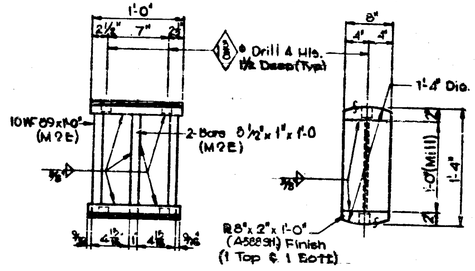
Rev. 12-1-70 Shims & Splice ℄ ELEV.; Note added

PROJECT NO.	LFR	SHEET NO.	NOTE BOOKS	FILE



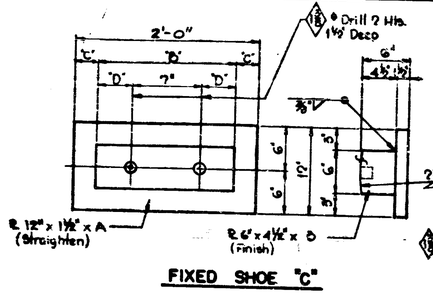
EXPANSION ROCKER — EXPANSION SHOES "A" & "C" BENT 28

Brms. A thru P

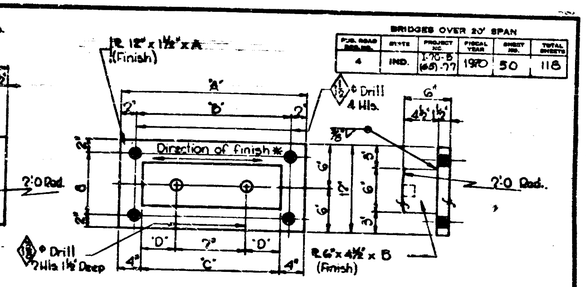


EXPANSION ROCKER — EXPANSION SHOES "A" & "B" BENT 29

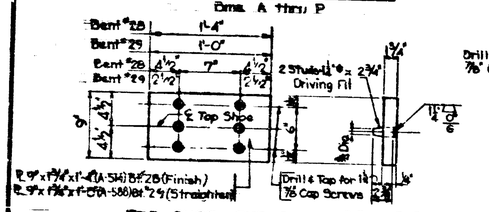
Brms. A thru P



FIXED SHOE "C"

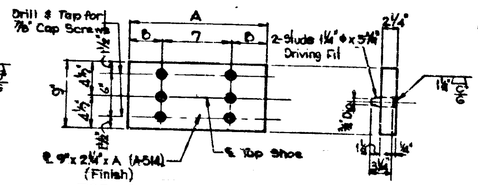


SEMI-FIXED SHOE "D"

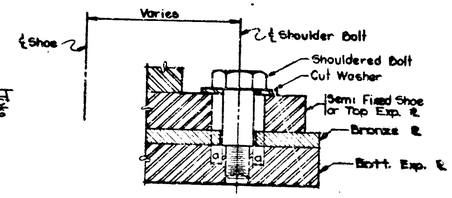


TOP SHOE — EXP. SHOES "A" & "B"

Brms. A thru P



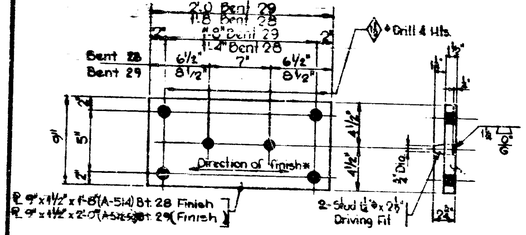
TOP SHOE — FIXED SHOES "C" & "D"



TRANSVERSE EXP. SHOE SETTING

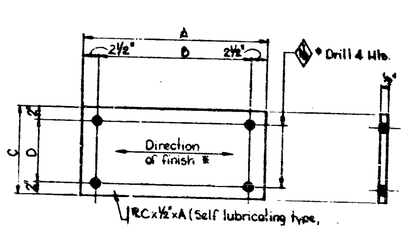
FIXED SHOES "C" & "D" BENT 27																			
Beam Lines	Top Shoe		Fix Shoe "C"		Semi-Fix Shoe "D"					Bronze Plate				Bott Exp. Plate			
	A	B	B	C	D	A	B	C	D		A	B	C	D	A	B	C	D
C, D, E, K, L & M	1'-4"	4½"	1'-4"	4"	4½"													
F & J	1'-6"	5½"	1'-6"	5"	5½"													
A, A1, G & H	1'-6"	5½"				2'-2"	1'-10"	1'-6"	5½"		2'-3"	1'-10½"	1'-0"	5"	2'-3"	1'-10½"	1'-0"	5"
A2, B, N, N1, N2 & P	1'-4"	4½"				2'-0"	1'-8"	1'-4"	4½"		2'-1"	1'-8"	1'-0"	5"	2'-1"	1'-8"	1'-0"	5"

Bent No.	Beam Lines	Bronze Plate				Bott Exp. Plate			
		A	B	C	D	A	B	C	D
28	A, A1, A2, B, G, H, N, N1, N2 & P	2'-1"	1'-8"	1'-0"	5"	2'-1"	1'-8"	1'-0"	5"
29	A, A1, A2, B, G, H, N, N1, N2 & P	1'-9"	1'-4"	1'-0"	5"	1'-9"	1'-4"	1'-0"	5"

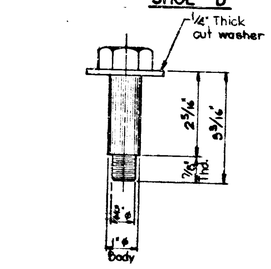


TOP EXP. PLATE — EXP. SHOE "B"

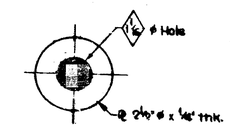
Brms. A, A1, A2, B, G, H, N, N1, N2 & P



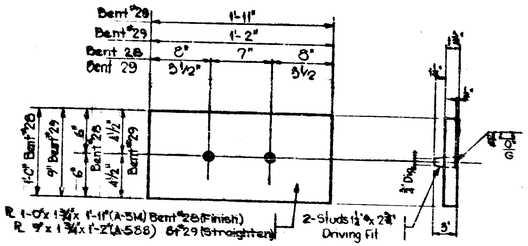
BOTTOM EXP. PLATE — EXP. SHOE B & FIXED SHOE "D"



SHOULDERED BOLT



CUT WASHER



EXP. SHOE — EXP. SHOE "A"

Brms. C, D, E, F, J, K, L & M

Notes:
See Dwg. S35 for Shim Detail & Table of Shim thickness.
All Structural Steel A-36 unless otherwise noted.
* Minimum finish to be 125 micro-inch r.m.s.
Curved surfaces of Shoes to be machined after weldments have been completed.
See Dwg. S35 for Shoe Assembly
Open holes to be 1⅛₆" ⌀ unless noted.

STRUCTURAL STEEL SHOE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1 1/2" = 1'-0" JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S36 OF S87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

THOS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

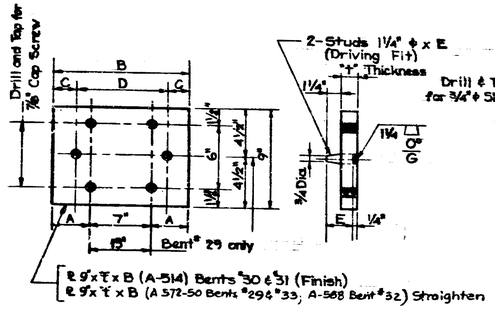
DESIGNED AJT CK'D MHM
DRAWN K.A. CK'D MHM
TRACED CK'D

PROJECT NO.	LOG	SHEET NO.	TOTAL SHEETS	FILE

Rev 12-1-70 STRUCTURAL ST. Size of welding

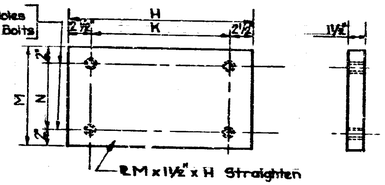
Rev 10-1-70 EOC; CHK. 12-10-70 TEC

BRIDGES OVER 20' SPAN					
FUR. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	51	118

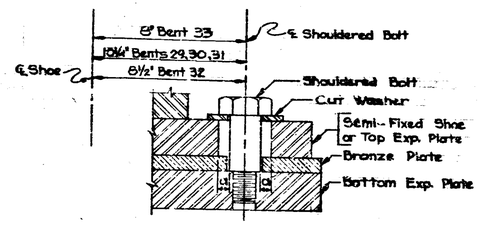


℄ 9"x t"x B (A-514) Bents #30 & 31 (Finish)
℄ 9"x t"x B (A 572-50 Bents #29 & 33; A-588 Bent #32) Straighten

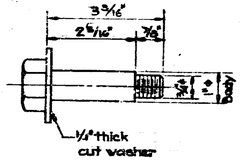
TOP SHOE



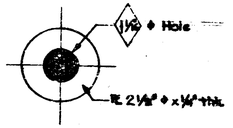
BOTTOM EXP. PLATE



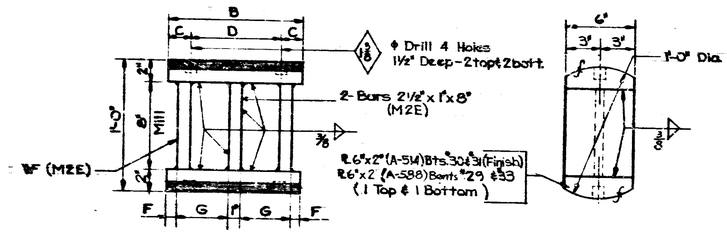
TRANSVERSE EXP. SHOE SETTING



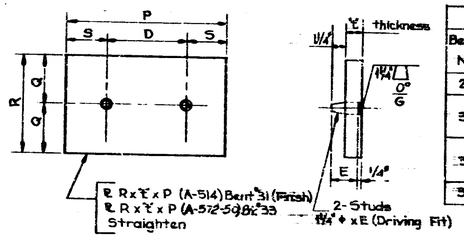
SHOULDERED BOLT



CUT WASHER



EXPANSION ROCKER



BOTTOM EXP. SHOE

Bent No.	Beam No.	Top Shoe A	B	t	C	D	E	Exp. Rocker B	C	D	F	G	WF	Top Exp. Plate M	H	K	J	L	N	Bronze ℄ M	N	H	K	Bott. Exp. ℄ M	N	H	K
29	A thru P	1'-3¼"	1'-4½"	1½"	4¼"	7"	2½"	1'-4½"	4¼"	7"	5⅝"	6¾"	14WF127	9"	2'-0½"	1'-8½"	7"	8¾"	5"	9"	5"	2'-1½"	1'-8½"	9"	5"	2'-1½"	1'-8½"
30	A thru A8 & B thru P	1'-3¼"	1'-4½"	1½"	4½"	7½"	2½"	1'-4½"	4½"	7½"	5⅝"	6¾"	14WF127	10"	2'-0½"	1'-8½"	7½"	8½"	6"	10"	6"	2'-1½"	1'-8½"	10"	6"	2'-1½"	1'-8½"
	A6	2½"	1'-0"	1½"	7½"	7½"	2½"	1'-0"	2½"	7½"	5⅝"	6¾"	10WF89	9"	1'-8"	1'-4"	7½"	6¼"	5"	9"	5"	1'-9"	1'-4"	9"	5"	1'-9"	1'-4"
31	A1-A2-A5-A6-G-H-N2-N1-N3-N4-P	1'-3¼"	1'-4½"	1½"	4½"	7½"	2½"	1'-4½"	4½"	7½"	5⅝"	6¾"	14WF127	10"	2'-0½"	1'-8½"	7½"	8½"	6"	10"	6"	2'-1½"	1'-8½"	10"	6"	2'-1½"	1'-8½"
	A8 & N2	2½"	1'-0"	1½"	2¼"	7½"	2½"	1'-0"	2¼"	7½"	5⅝"	6¾"	10WF89	9"	1'-8"	1'-4"	7½"	6¼"	5"	9"	5"	1'-9"	1'-4"	9"	5"	1'-9"	1'-4"
33	A1 thru A6, G, H & N1 thru P	2½"	1'-0"	1½"	2½"	7"	2½"	1'-0"	2½"	7"	5⅝"	6¾"	10WF89	9"	1'-8"	1'-4"	7"	6½"	5"	9"	5"	1'-9"	1'-4"	9"	5"	1'-9"	1'-4"

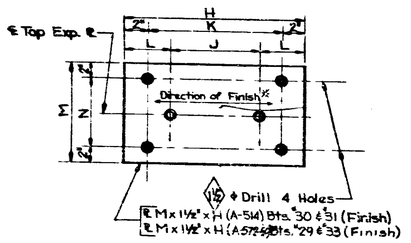
EXPANSION SHOE "B"

Bent No.	Beam No.	Top Shoe B	t	C	D	E	Fixed Shoe H	P	J	L	Semi-Fix. Shoe B H	P	J	L	K	Bronze Plate M	N	H	K	Bott. Exp. ℄ M	N	H	K
32	B-C-D-E-F-J-K-L-M-N	1'-1"	2"	3"	7"	3"	1'-1"	1'-1"	7"	3"													
32	A1 thru A6-G-H & N1 thru P	1'-1"	2"	3"	7"	3"					1'-9"	1'-1"	7"	3"	1'-5"	1'-0"	8"	1'-10"	1'-5"	1'-0"	8"	1'-10"	1'-5"

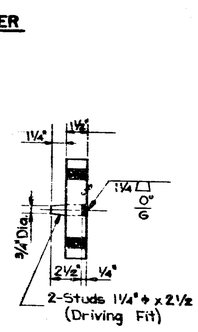
FIXED SHOES TYPE "C" & "D"

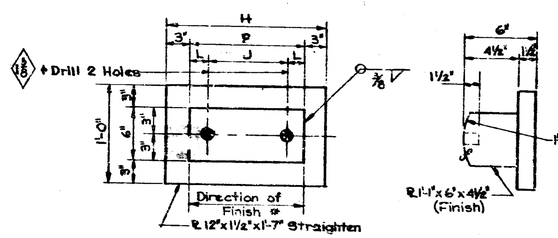
Bent No.	Beam No.	Top Shoe B	t	C	D	E	Exp. Rocker B	C	D	F	G	WF	Bott. Exp. Shoe R	t	P	D	S	Q	E
31	B-C-D-E-F-J-K-L-M-N	1'-4½"	1½"	4½"	7½"	2½"	1'-4½"	4½"	7½"	5⅝"	6¾"	14WF127	10"	1½"	1'-10"	7½"	7¼"	5"	2½"
33	B-C-D-E-F-J-K-L-M-N	1'-0"	1½"	2½"	7"	2½"	1'-0"	2½"	7"	5⅝"	6¾"	10WF89	9"	1½"	1'-1"	7"	3"	4½"	2½"

EXPANSION SHOE "A"

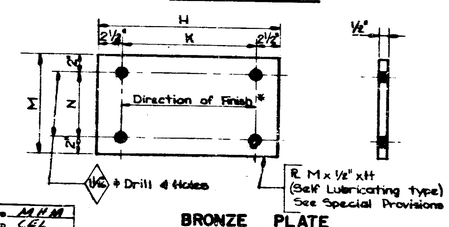


TOP EXP. PLATE

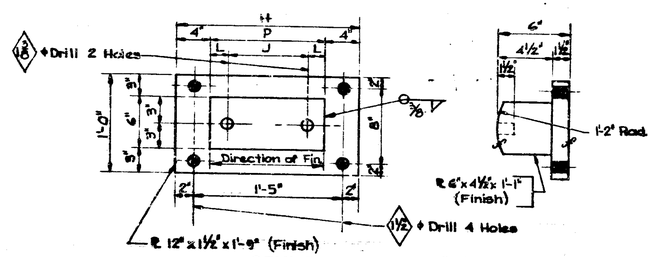




FIXED SHOE "C"



BRONZE PLATE



SEMI-FIXED SHOE "D"

Notes:
* Minimum finish to be 125 micro-inch r.m.s.
All Structural Steel, A-36 unless otherwise noted.
Curved surfaces of Shoes to be machined after weldments have been completed.
See Dwg. S35 for Shim Detail, Table of Shim Thickness & Shoe Assembly.
Open holes to be 13/16" ϕ unless noted.

STRUCTURAL STEEL SHOE DETAILS
INDIANA STATE HIGHWAY COMMISSION

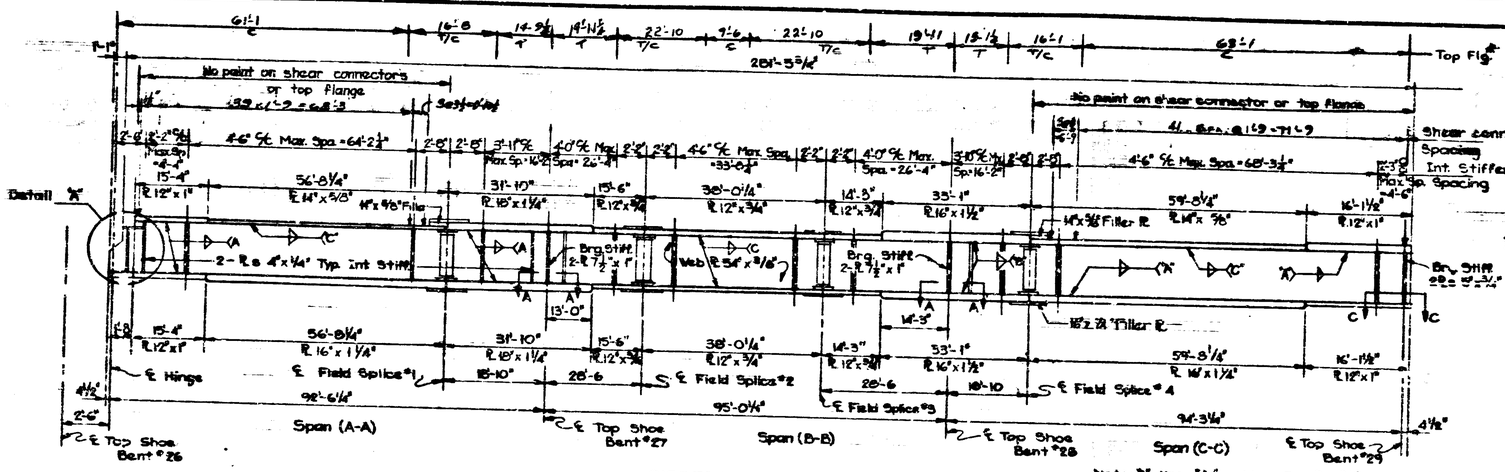
SCALE:- NONE
JULY 3, 1969
SUBMITTED FOR APPROVAL:
DRAWING:- 337 OF 587
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED AJT CK'D MHM
DRAWN W&H CK'D CEL
TY. CKD CK'D

CLASS W. COLE JR. REGISTERED No. 3652 STATE OF INDIANA PROFESSIONAL ENGINEER

REV. 12-1-70 STRUCTURAL STEEL, SIZE OF WELDING
Bent No. 33 Fixed Shoe Table

REV. 12-1-70 STRUCTURAL STEEL, SIZE OF WELDING, 12-10-70 TCC



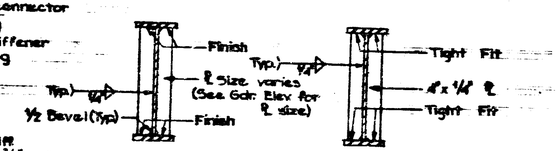
GIRDERS A, A1

(All Transverse Stiffeners on Girder A to be placed on inside face)

Note "A": Use 5/16" weld on Fig. Re 3/4" thk. to 1½" thk.
Note "B": Use 3/8" weld on Fig Re 1½" thk. & over.
Note: "C" Use ¼" weld on Fig. Re ½" thk. to ¾" thk.

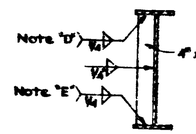
BRIDGES OVER 3KY SPAN

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-4 (68)177	1970	52	118



BEARING STIFFENERS (No weld on tension flange)

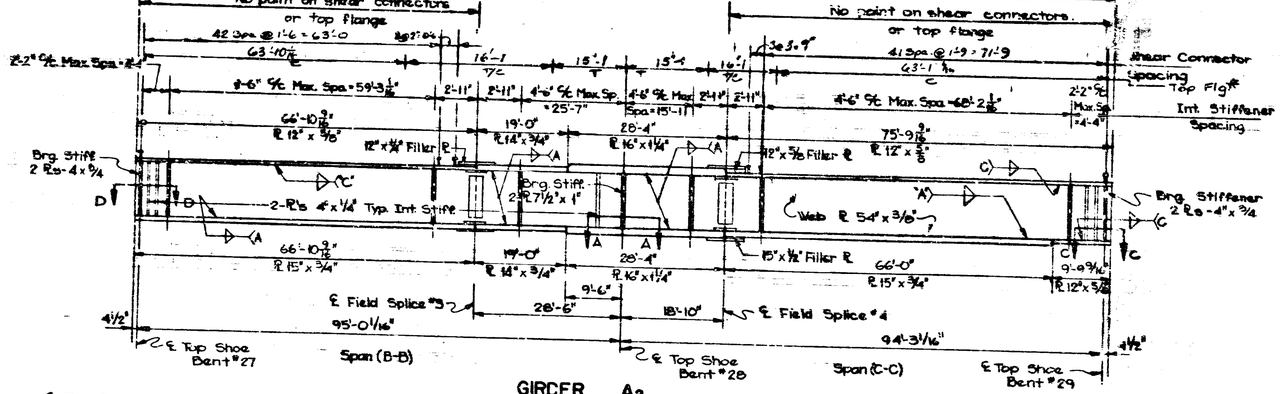
INTERMEDIATE STIFFENERS (Interior and Median Girders)



INTERMEDIATE STIFFENERS (Girders A and P)

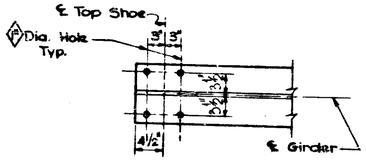
Note "D": Weld between field splice #2 and field splice #3. Weld from end brg. to splice #1 and weld from end brg. to splice #4. No weld on tension flange.

Note "E": Weld from field splice #1 to field splice #2. (Typ. between field splice #3 and Splice #4) No weld on tension flange.



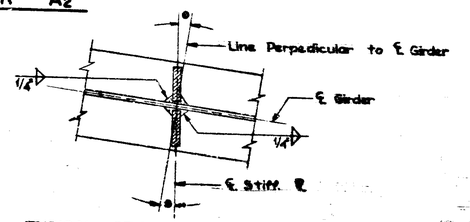
GIRDER A2

*C = Compression
T = Tension
T/C = Tension and Compression



SECTION D-D

Beam	Angle "θ"
A-A1	1°-08'-45"
A2	0°-34'-23.7"
B,C,D,E,F,G	0°-0'-0"
H,J,K,L,M,N	0°-0'-0"
N1	0°-45'-55.5"
N2	1°-31'-45.9"
P	2°-17'-33"



TYPICAL STIFFENER DETAIL

Notes:
See Dwg. S46 for Design Data & Structural Steel Notes.
See Dwg. S15 for General Notes.
See Dwg. S40 for Shear Connector Details.
See Dwg. S41,42 & 43 for Field Splice Details.
See Dwg. S 59 for Detail "A", Sections A-A & C-C, Flange Butt Weld Detail, Flange Plate Transition Detail & Shop Web Splice Detail.
See Dwg. S44 for No Load Camber Diagram
Set Intermediate Stiffener spacing to match Diaphragm spacing.
All Structural Steel on this sheet to be A-36 unless otherwise noted.

Rev 12-1-70 Shear Conn. & T/C Diag. added

STRUCTURAL STEEL DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

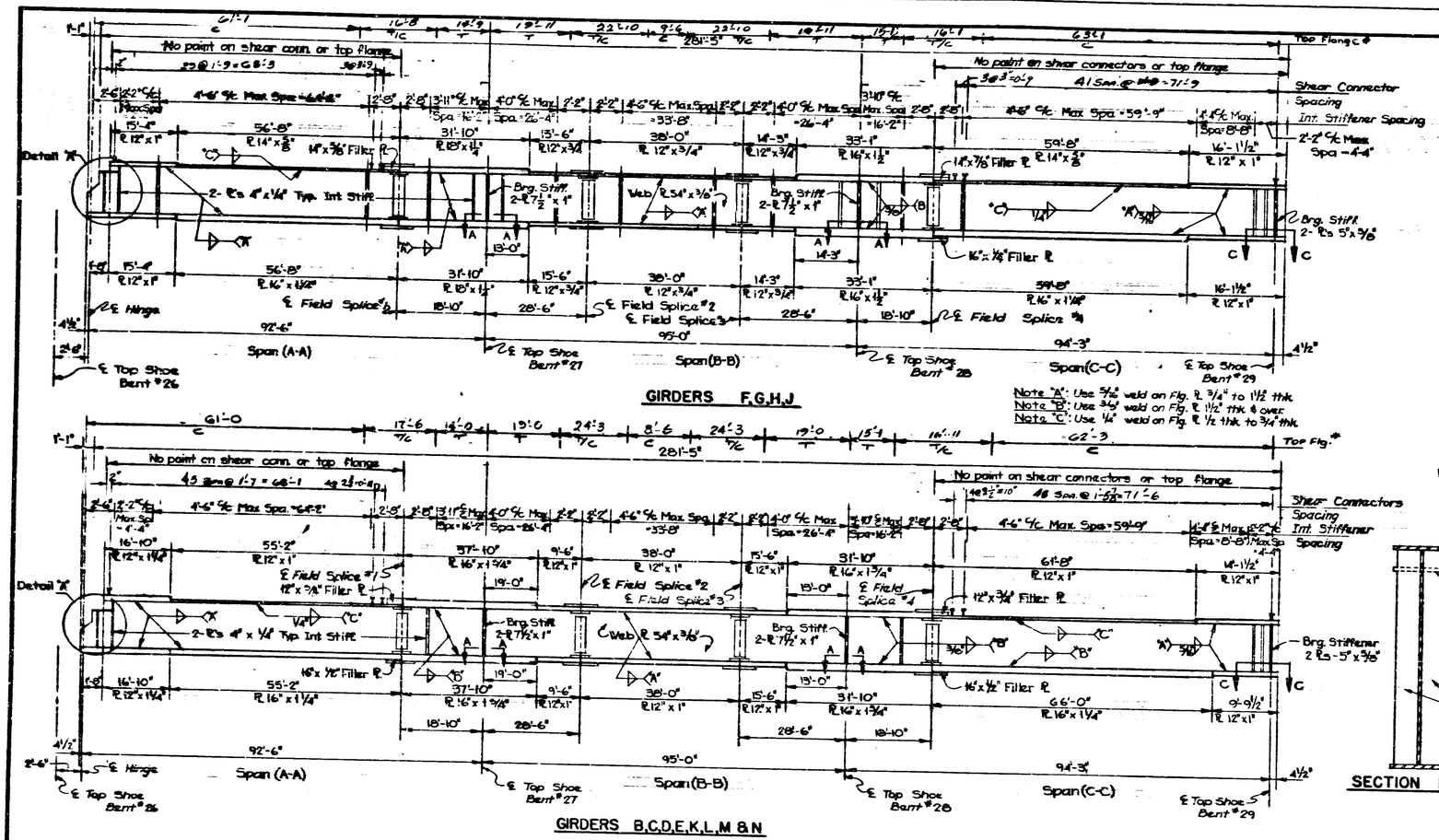
DRAWING:- S 56 OF S 67
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AIT CKD LHM
DRAWN WSH CKD HMH
TRACED CKD

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD DESIG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-5 (68) 77	1970	53	118



Notes:
See Dwg. S 46 for Design Data & Structural Steel Notes.
See Dwg. S 13 for General Notes.
See Dwg. S 40 for Shear Connector Details.
See Dwg. S 41, 42 & 43 for Field Splice Details.
See Dwg. S 38 for Intermediate and Brg. Stiff. Details.
See Dwg. S 44 for No Load Camber and Reaming Diagram.
Set Intermidiate Stiffener spacing to match Diaphragm Spacing.
All Structural Steel on this sheet to be A-36 unless otherwise noted.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

DESIGNED AJT CK'D MHM
DRAWN W&H CK'D MHM
TRACED CK'D

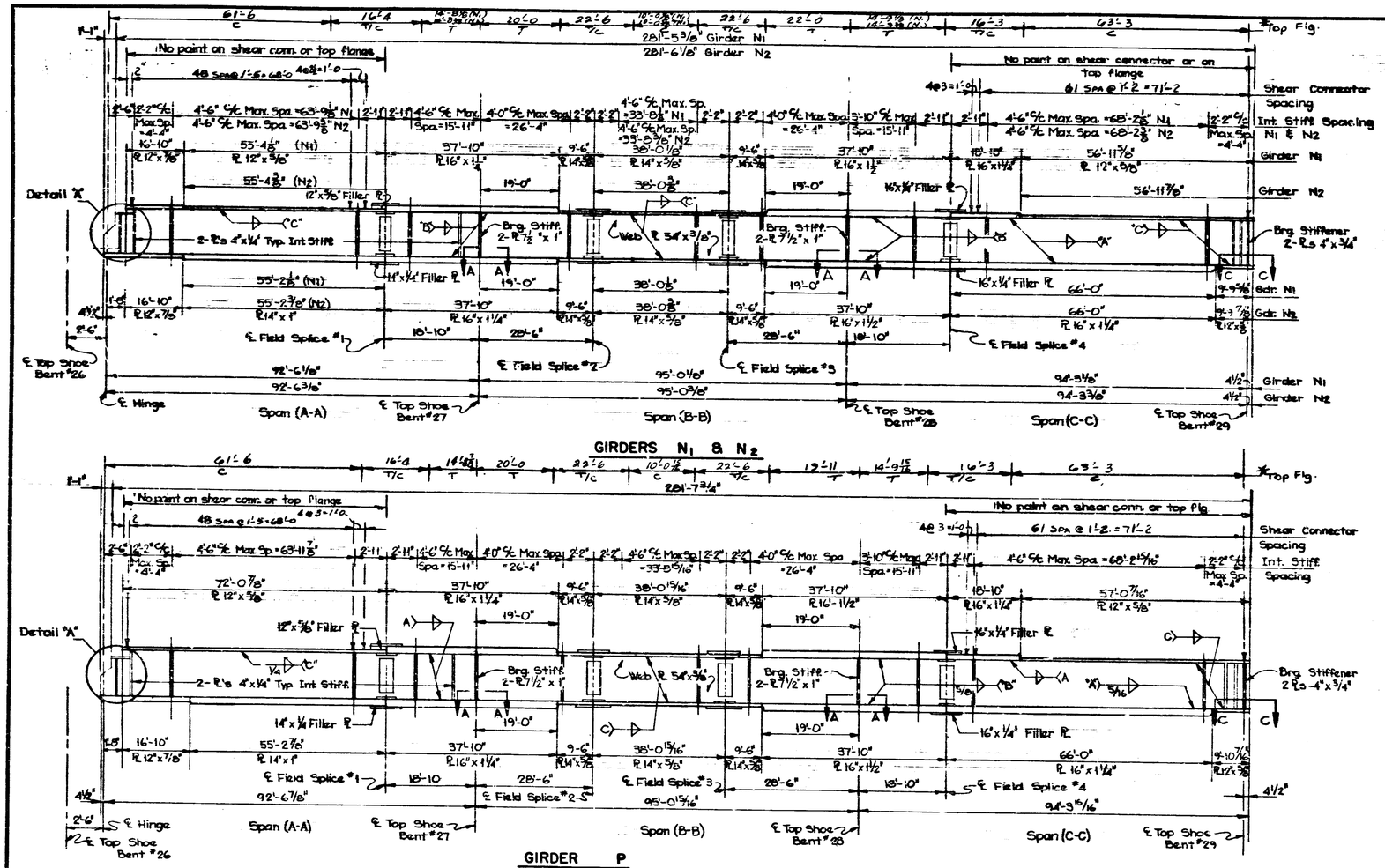
SCALE:- NONE
JULY 5, 1969
SUBMITTED FOR APPROVAL:
DRAWING:- S 39 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3433 STATE OF INDIANA PROFESSIONAL ENGINEER

Rev. 12-1-70 Shear Conn; T/C Dwg. added

Rev. 12-1-70 B.C.; C.M.K./12-0-70 T.C.C.

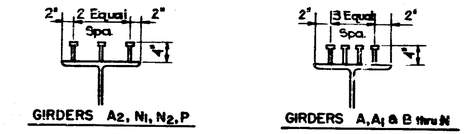
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



Note: "A" Use 5/16" weld on Flg. PLs 3/4" thk. to 1 1/2" thk.
Note: "B" Use 3/8" weld on Flg. PLs 1 1/2" thk. & over.
Note: "C" Use 1/4" weld on Flg. PLs 1/2" thk. to 3/4" thk.

*T= Tension
C= Compression
T/C = Tension & Compression

BRIDGES OVER 20' SPAN					
PUB. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	54	118



HEADED STUD SHEAR CONNECTOR

Headed Studs shall be automatically welded to the steel beams. Weld base of studs should be 3/4" in diameter and are to be welded on centers shown.

The contractor may use channels or 7/8" ϕ Studs as alternate shear conn. If used they shall equivalent shear value & the proposed size & spacing submitted for approval.

NOTES:
See Dwg. S46 for Design Data & Structural Steel Notes.
See Dwg. S13 for General Notes.
See Dwg. S39 for Detail 'A', Sections A-A & C-C, Flange Butt Weld Detail, Flange PL Transition Detail & Shop Web Splice Detail.
See Dwg. S41, 42 & 43 for field Splice Details.
See Dwg. S38 for Intermediate and Brg. Stiff Details.
See Dwg. S44 for No Load Camber & Reaming Diagram.
See Dwg. S32 for Framing Plan.

All Structural Steel on this sheet to be A-36 unless otherwise noted.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

DRAWING:- 540 OF 587
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AIT	CK'D MHM
DRAWN WeH	CK'D MHM
TRACED	CK'D

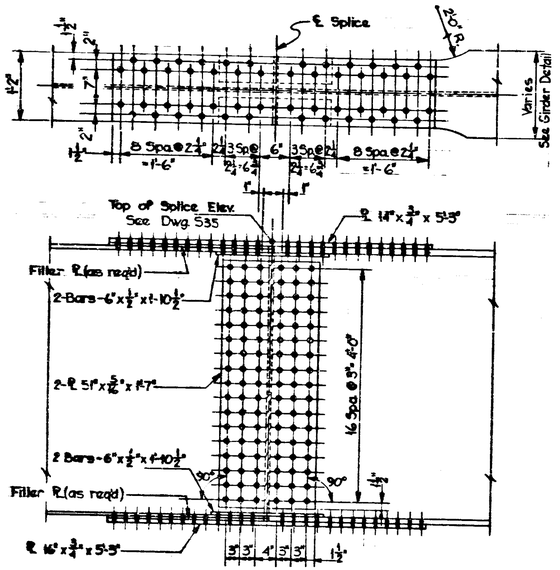
Rev. 12-1-70 Shear Conn; Tension/Comp. Diag. added

Rev. 12-1-70 Shear Conn.

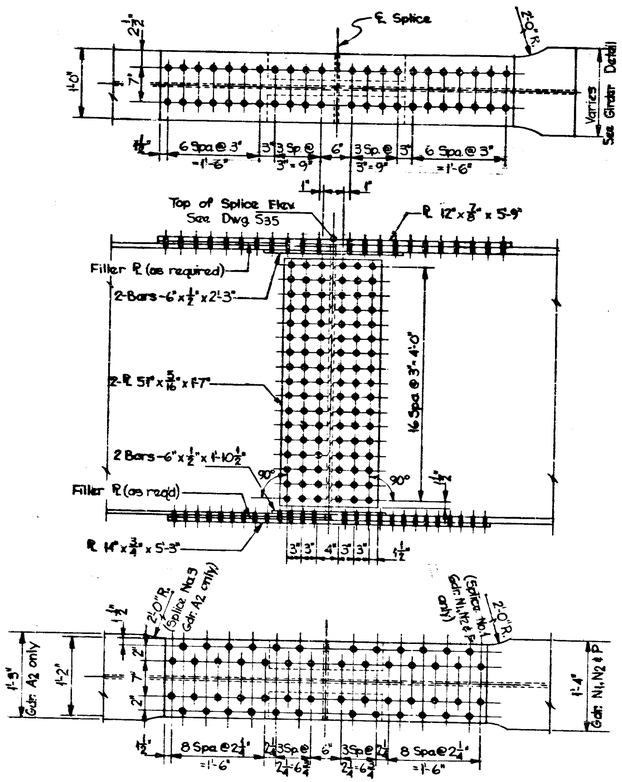
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN

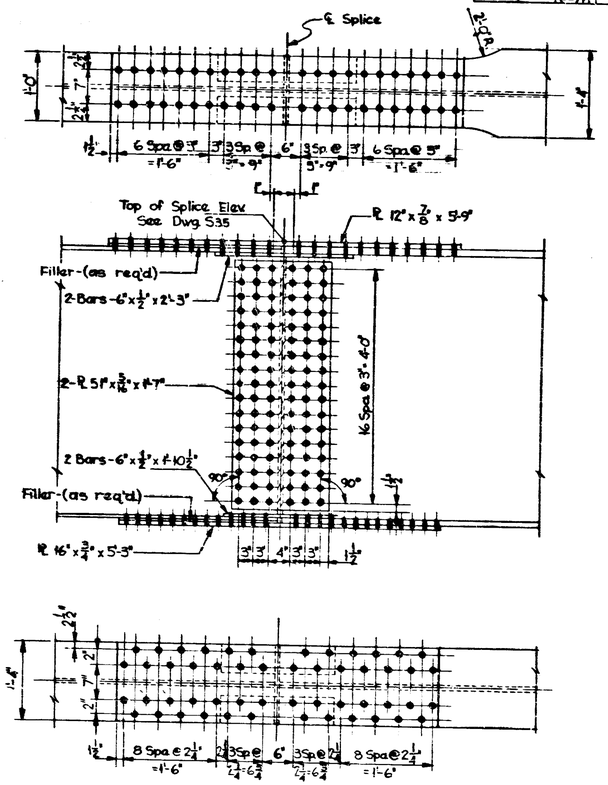
FED. ROAD PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (85)77	1970	55	118



FIELD SPLICE NO. 1
(Girders A, A1, F, G, H and J)
FIELD SPLICE NO. 4
(Girders A, A1, F, G, H and J)



FIELD SPLICE NO. 1 & NO. 4
(Girder N1, N2, & P)
FIELD SPLICE NO. 3
(Girder A2)



FIELD SPLICE NO. 1 & NO. 4
(Girders B, C, D, E, K, L, M & N)

Notes:
See Dwg. S 4 for Design Data & Structural Steel Notes.
All Structural Steel on this sheet to be ASTM - A36 unless noted.
Open Holes to be 13/16" Unless Noted

Rev. 3-10-71 Delete Splice "4" for N1, N2 & P

DESIGNED MHM CK'D
DRAWN WaH CK'D
TRACED CK'D

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

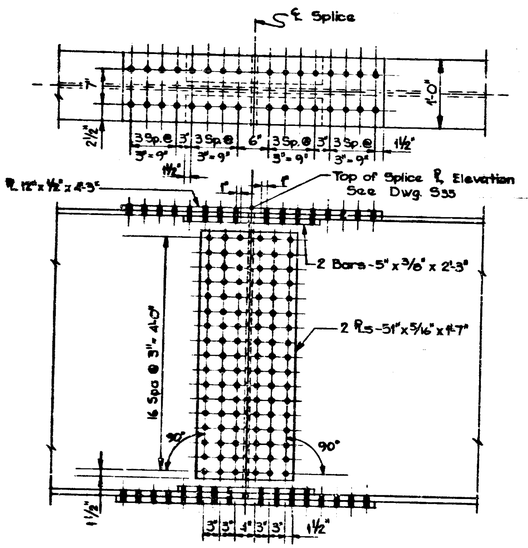
SCALE:- 1"=1'-0" JULY 5, 1969
SUBMITTED FOR APPROVAL: Charles Colff
DRAWING:- S41 OF S 67
PROJECT:- I-70-3(85)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLF No. 3651

PROJECT NO.	I.HS	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN

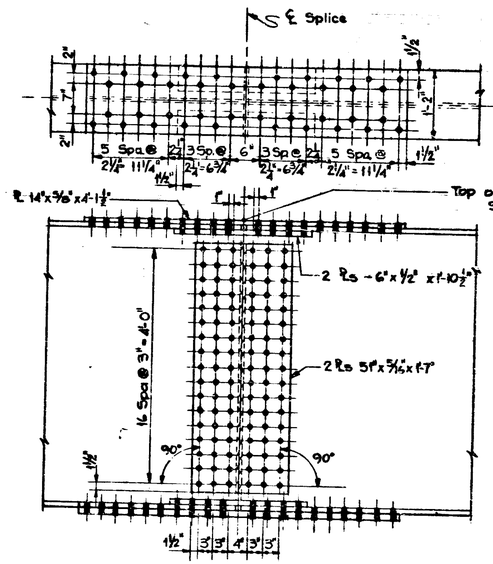
FED. ROAD SERV. SYS.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (69)-77	1970	56	118



FIELD SPLICE No. 2 & No. 3

(GIRDERS A, A1, B, C, D, E, F, G, H, J, K, L, M & N)

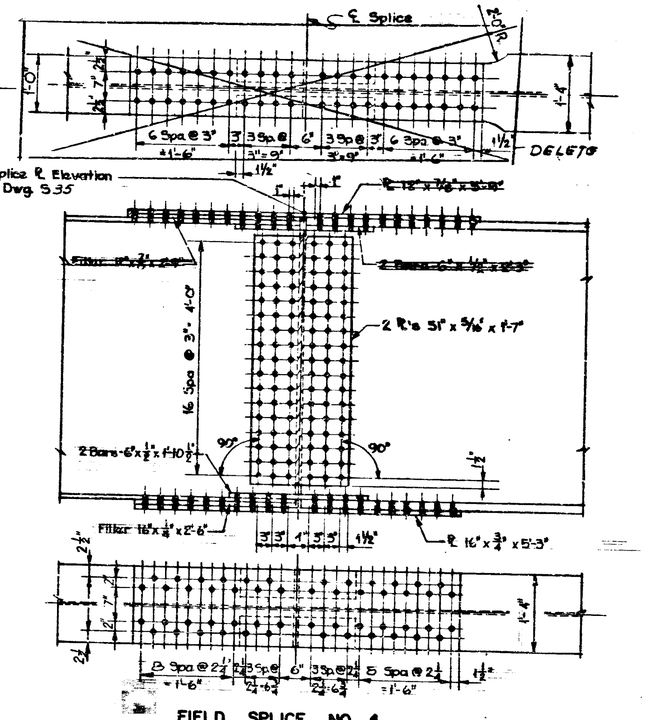
(Note: Top & Bottom Splice ℄s are to be the same)



FIELD SPLICE NO. 2 & NO. 3

(GIRDERS N1, N2 & P)

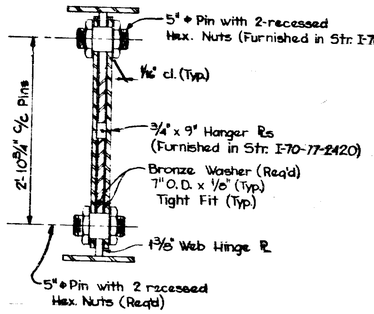
(Note: Top & Bottom Splice ℄s are to be the same)



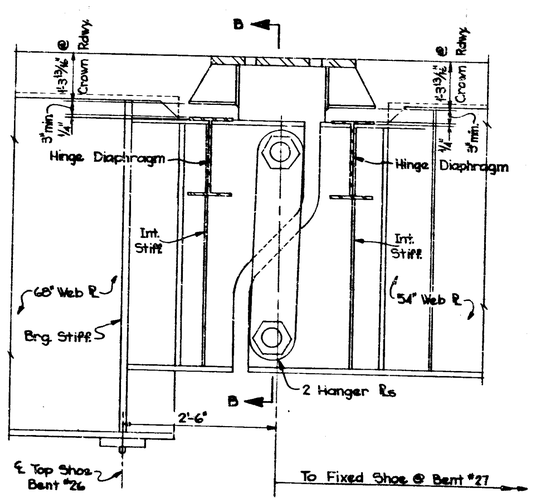
FIELD SPLICE NO. 4

(GIRDERS N1, N2 & P)

NOTE: Top and Bottom splice material to be the same

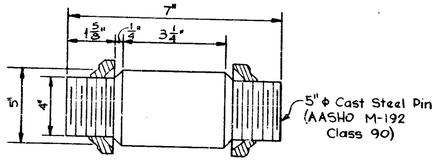


SECTION B-B



HINGE ASSEMBLY DETAIL BENT #26

(Hanger and Tooth Exp. Joint Furnished in Str. I-70-77-2420)



Thread: 6 UN Class 2A

PIN DETAILS

Notes:
Open holes to be 15/16" ϕ unless noted.
See Dwgs. S46 for Structural Steel Notes.
All Structural Steel on this sheet to be ASTM A36 unless noted.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 5, 1969

SUBMITTED FOR APPROVAL:

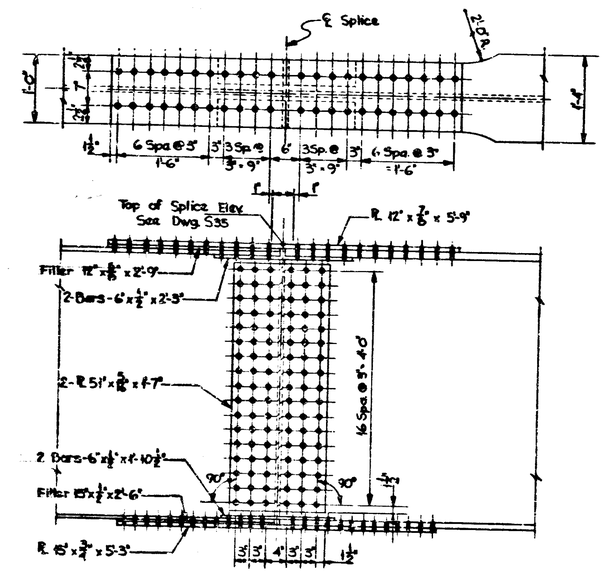
DRAWING:- S 42 OF S 87
PROJECT:- I-70-3(69)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

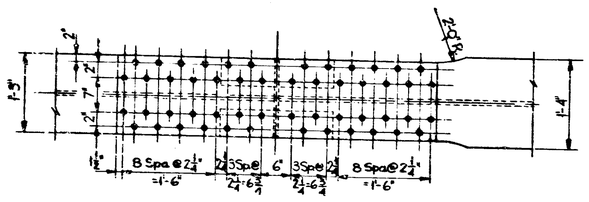
CHAS. W. COLE — REGISTERED — No. 3653 — STATE OF INDIANA — PROFESSIONAL ENGINEER

DESIGNED AJT CKD. AHM
DRAWN WGH CKD. CHM
TRACED CKD.

Rev. 3-10-71 SPLICE N2 & GIRD. N1, N2, P

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE





FIELD SPLICE NO. 4
(Girder A2)

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (59)77	1970	57	118

Notes:
See Dwg. S46 for Design Data & Structural Steel Notes.
All Structural Steel on this sheet to be ASTM-A36 unless noted.

Open Holes to be 15/16" ϕ Unless Noted.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None. JULY 5, 1969

SUBMITTED FOR APPROVAL:- Charles W. Cole

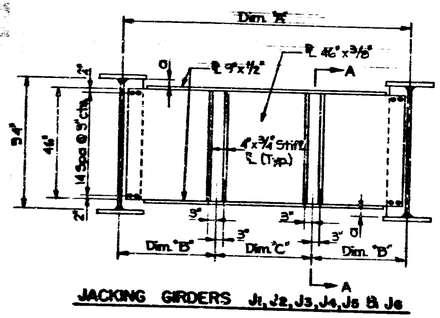
DRAWING:- S49 OF S 67
PROJECT:- I-70-3(59)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2586

CHAS. W. COLE JR. REGISTERED No. 3683 STATE OF INDIANA PROFESSIONAL ENGINEER

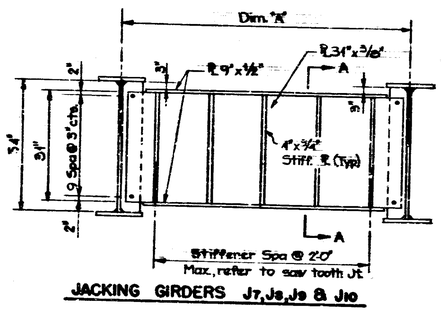
DESIGNED MHM CK'D
DRAWN W&H CK'D
TRACED CK'D

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

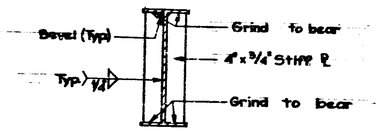
BRIDGES OVER 20' SPAN					
FED. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	58	118



JACKING GIRDERS J1, J2, J3, J4, J5 & J6

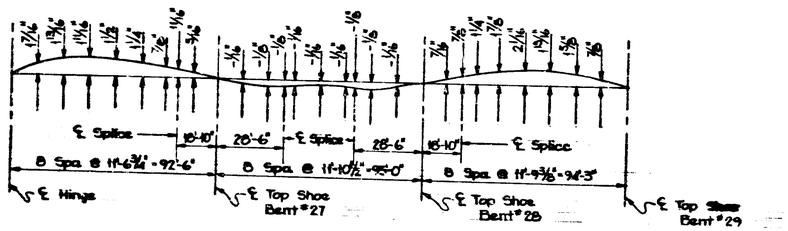


JACKING GIRDERS J7, J8, J9 & J10



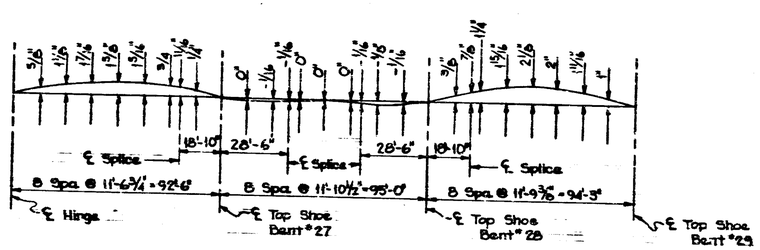
SECTION A-A

JACKING GIRDERS			
	Dim. "A"	Dim. "B"	Dim. "C"
J1	6'-7 9/16"	2'-2"	2'-3 9/16"
J2	9'-4"	3'-1"	3'-2"
J3	8'-0"	2'-8"	2'-8"
J4	4'-1 11/16"	1'-4"	1'-5 11/16"
J5	7'-10 13/16"	2'-3"	2'-4 13/16"
J6	5'-1 1/16"	1'-8"	1'-9 1/16"
J7	9'-1 5/16"	—	—
J8	9'-4"	—	—
J9	8'-0"	—	—
J10	6'-0"	—	—



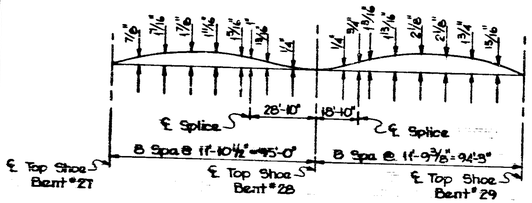
NO LOAD CAMBER & REAMING DIAGRAM

GIRDERS A, A1, B, C, D, E, F & G



NO LOAD CAMBER & REAMING DIAGRAM

GIRDERS H, J, K, L, M, N, N1, N2 & P



NO LOAD CAMBER & REAMING DIAGRAM

GIRDER A2

Note:
See dwg. 546 for Structural Steel Notes
See dwg. 582 for location of Jacking Girders

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

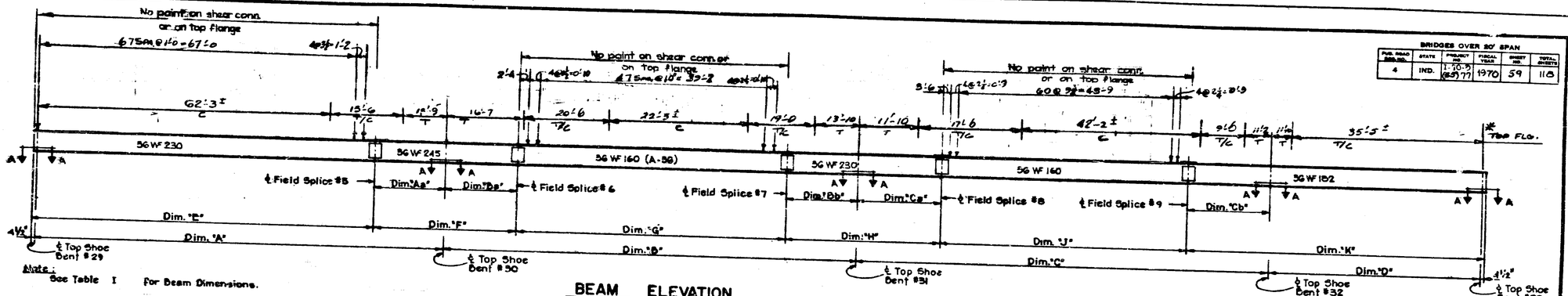
SUBMITTED FOR APPROVAL:

DRAWING:- 544 OF 587
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED A.J.T. CHECKED
DRAWN W.E.H. CHECKED
TRACED CHECKED

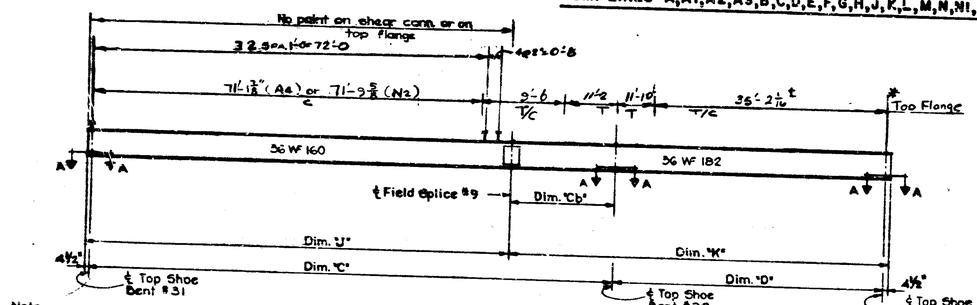
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



Note: See Table I for Beam Dimensions.

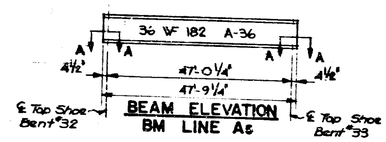
BEAM ELEVATION
BM. LINES A, A1, A2, A3, B, C, D, E, F, G, H, J, K, L, M, N, N1, N3, N4, N5, & P

BRIDGES OVER 30' SPAN					
PUB. ROAD SYS. NO.	STATE PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65) 77	1970	59	118

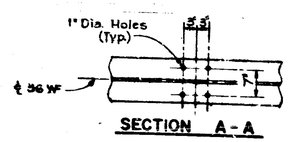


Note: See Table I for Beam Dimensions

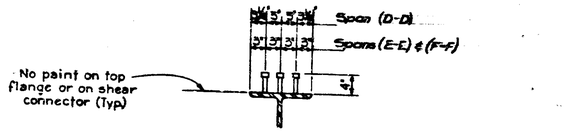
BEAM ELEVATION
BM. LINES A4 & N2



BEAM ELEVATION
BM LINE A5



SECTION A-A



STUD SHEAR CONNECTOR

Studs shall be automatically welded to the steel beams. Weld base of studs should be ¾" in diameter and are to be welded on centers shown.

Note:
Use ⅞"ø Stud Shear Connectors or Channel Shear Connectors as an alternate. If used they shall have equivalent shear value & the proposed size & spacing submitted for approval.

*T= Tension
C= Compression
T/C= Tension and Compression

TABLE I

BEAM LINE	DIMENSIONS															
	A	Aa	B	Ba	Bb	C	Ca	Cb	D	E	F	G	H	J	K
A, A1 & A2	91'-5 7/16"	20'-6 1/16"	92'-0 15/16"	23'-0 1/16"	23'-0 1/16"	91'-9½"	16'-5 1/16"	16'-0 1/16"	47'-0 11/16"	71'-3 7/16"	43'-6 3/16"	46'-0 3/16"	41'-5 3/16"	57'-4 3/16"	63'-4 5/16"
A3	91'-5 1/16"	20'-6"	92'-0 1/16"	23'-0"	do	do	do	do	do	71'-3 9/16"	43'-6"	46'-0 9/16"	41'-5 3/16"	57'-4 3/16"	63'-4 5/16"
A4						91'-9 9/16"		do	47'-0 5/16"					76'-2 7/16"	63'-4 5/16"
B Thru N	91'-5 5/16"	20'-6 1/16"	92'-2 5/16"	23'-0 1/16"	23'-0 9/16"	92'-3 1/16"	16'-5½"	16'-1 1/4"	47'-3 3/16"	71'-3 3/16"	43'-6 1/16"	46'-1 3/16"	41'-6 1/16"	57'-8 3/16"	63'-9 1/16"
N1	91'-6 5/16"	20'-6 3/16"	92'-2 5/16"	23'-0 1/16"	do	do	do	do	do	71'-5"	43'-6 5/16"	46'-1 13/16"	41'-6 1/16"	57'-8 13/16"	63'-9 1/16"
N2						92'-5 5/8"		16'-2 1/4"	47'-6½"					76'-7 1/16"	64'-1 1/4"
N3, N4, N5 & P	91'-7 1/4"	20'-6 1/2"	92'-6"	23'-0 9/16"	23'-1 5/16"	92'-9 1/16"	16'-6 5/16"	16'-3 7/16"	47'-11 5/16"	71'-5 1/4"	43'-7 1/16"	46'-3 5/16"	41'-7 5/16"	57'-11 1/16"	64'-7 1/16"

NOTES:
See Dwg. S 46 for Design Data and Structural Steel Notes.
See Dwg. S 13 for General Notes.
See Dwg. S 47 for Beam Splices.
See Dwg. S 33 for angle of deviation at Field Splices & Framing Plan
See Dwg. S 44 & S 48 for No Load Camber and Reaming Diagrams.
Dimensions given between ℄ Top Shoes are to be measured along ℄ Beams.

All Structural Steel on this sheet to be A 572-50 unless otherwise noted.

DESIGNED A.I.T. CK'D M.M.M.
DRAWN M.D.M. (7-26) CK'D L.E.L.
TRACED CK'D

Rev 18-1-70 EIC; Chk. 12-10-70 J.J.W.
Rev 1-14-70 E.I.C.

Rev 1-14-71 Beam ELEV.
Rev 18-1-70 Shear Conn.; T/C Diag. added

November 6, 1961

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

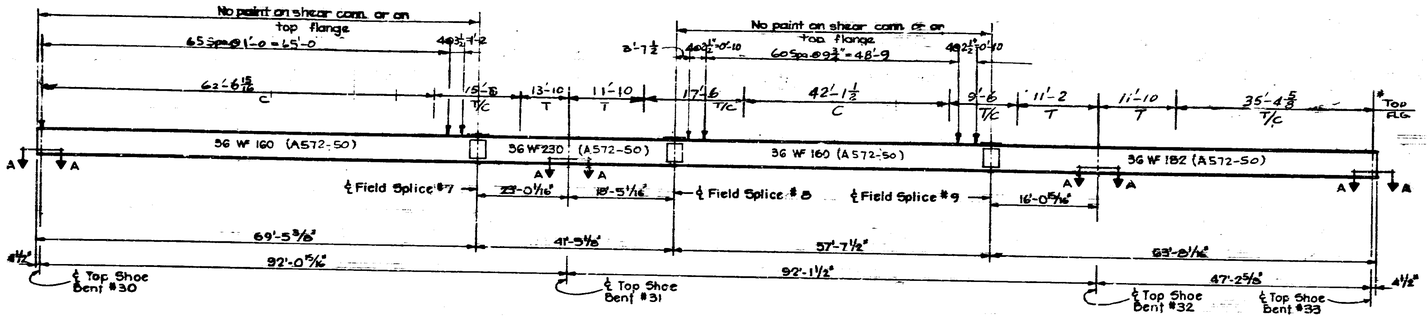
SUBMITTED FOR APPROVAL: Charles Coles

DRAWING:- S 450F S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLES JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

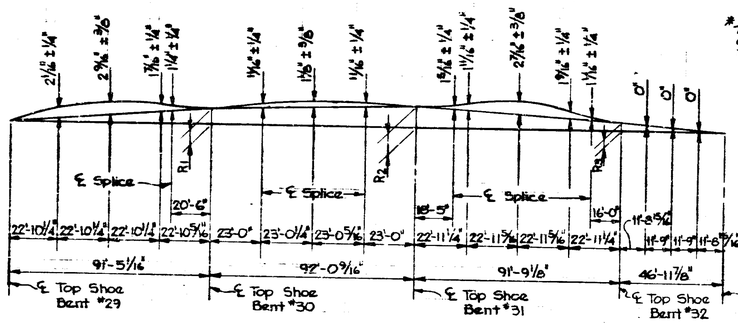
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	60	118

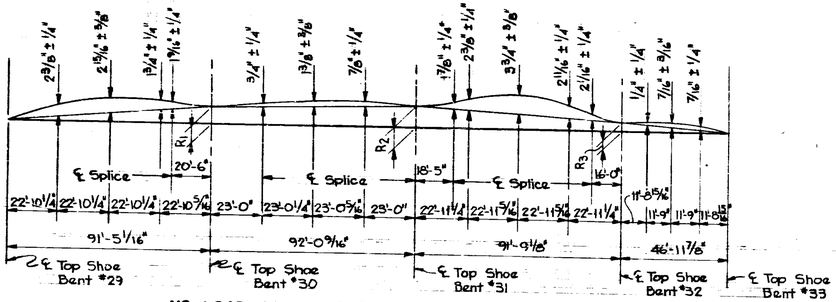


BEAM ELEVATION
Beam Line Ae

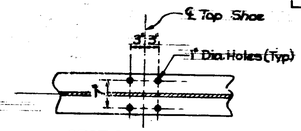
* T = Tension
C = Compression
T/C = Tension & Compression



NO LOAD CAMBER & REAMING DIAGRAM
Beam Lines B thru N1, N3, N4, N5 & P



NO LOAD CAMBER & REAMING DIAGRAM
Beam Lines A, A1, A2 & A3



SECTION A-A

DESIGN DATA:

Live Loads : H5 20-44 loading with impact and distribution in accordance with 1969 A.A.S.H.O. Specifications, Checked for special loading consisting of 2-24,000 lb. axles spaced 4'-0 apart.
Dead Loads : Actual weight plus 35 lbs. per square ft. of roadway to provide for future wearing surface.
Slab : Designed for 16,000 lb. wheel plus impact and with 1" monolithic wearing surface
Allowable Stresses :
To be in accordance with 1969 AASHO Specifications

STRUCTURAL STEEL NOTES: (CONTINUED)

Structural steel for welding may be flame cut if the flame cutting equipment is mechanically guided. Hand flame cutting shall be used only when approved, and the surface is further treated by milling, grinding, or chipping and grinding.
Sheared plates or universal mill plates shall be used for girder webs and shall be ordered with sufficient additional width to allow for trimming of edges to provide built-in camber for dead load deflection and vertical curve. Trimming shall be by flame cutting. The faying surfaces of the web and flange plates and the adjacent surfaces that are to be fillet welded shall be cleaned by grinding prior to assembly and welding of web to flange.
All butt welds shall be subject to radio-graphic inspection at the option of the Engineer.
As soon as the Engineer has approved the field welds, all welds and any surface from which the shop coat has been omitted or becomes worn off or has otherwise become defective shall be thoroughly cleaned of all charred paint or any foreign matter and completely covered with one coat of shop paint.
All welding shall conform to the current A.W.S. specifications for welded Highway and Railway Bridges unless otherwise noted.
All structural steel to be ASTM A-36 Steel unless otherwise noted.
Rivets shall not be used in the assembly of structural steel.
The weight of high strength bolts is not included in the estimated weight of structural steel. The cost of these bolts shall be included in the cost of the structural steel.
Holes for pins shall be bored and/or reamed to dimensions shown on plans after beams or girders are assembled in position in accordance with no load camber diagram.
When the girder sections are fit up in the shop for reaming or drilling of field splices. The center lines of opposing flanges shall not deviate more than 1/8 inch with the webs in alignment.

All Paint shall be in accordance with current State Highway Specifications.
Shop Paint } Basic Lead Silica Chromate
Field Paint }

Notes:
See Dwg. S3 for General Notes.
See Dwg. S33 for angle deviation at field splices.
See Dwg. S47 for beam splices.
See Dwg. S48 for No Load Camber and Reaming Diagram of Beam Ae & Field Splice #7 @ Ae
See Dwg. S48 for dimensions R1, R2 & R3.
See Dwg. S45 for Shear Connector Detail.

STRUCTURAL STEEL NOTES:

Beams must be cambered to a smooth curve. Camber must be checked after shop welding is completed and while beams are supported in such a way as to have no bending moment in the direction of camber.
H.S. Bolts to be 7/8" ϕ unless noted. Open holes to be 9/16" ϕ unless noted.
Holes for beam splices shall be subpunched or subdrilled and reamed to size while assembled. See Art. 711.24 of the specifications.
The shop details shall show a plan of match-marking for all reamed pieces.
All splice plates to be removed, cleaned and deburred after reaming. Splice plates shall not extend beyond the end of the beam after bolting for shipment.
The shop plans shall indicate whether reaming or drilling is to be done in shop or field.
If shop reaming or drilling is used, the beams shall be assembled in accordance with the No Load camber & reaming diagram. If the beams are shop reamed or drilled, full size drift pins shall be used in erection, and progressive beam assembly will be permitted provided not less than two complete spans are assembled at one time. See Art. 711.24 of the Specifications.
Flange splice bars shall have planed or rolled edges and holes in bars shall be sub-drilled and reamed or drilled full size while assembled.
All structural steel is to be erected using full sized drift pins in a minimum of fifty percent (50%) of the flange splice holes and fifty percent of the web splice holes. The elevations shall be checked before bolting splices and while the structural steel is unsupported by falsework. See Table of Splice Elevations on Dwg. S 35.
The Contractor shall prepare detailed working or shop drawings to enable him to fabricate, erect and construct all parts of work in conformity with the Engineer's drawings and specifications and shall submit five (5) copies of these to the Engineer. See Art. 711.04 of the specifications.
Holes in all material connecting top shoes to beam & girder flanges to be 1"ϕ
Bolts connecting beam flange to top shoe shall extend into top shoe a min. of 1"
Shims between beams and top shoes may be built-up.
No shim shall be less than 1/8" in thickness.
Diaphragm connections to beams may be welded in lieu of bolting connections. If the Contractor elects to use connections other than shown in the contract plans he shall submit details to the Engineer for approval. He shall assume full responsibility for layout of all diaphragm connections and for accuracy of all fitted parts. No increase in pay weight will be permitted.
All shop butt welds in flange plates shall be ground smooth and flush with the base metal on all surfaces. Finished details shall be as shown on Dwg. S 32. Grinding shall be done in direction of stress and in such a manner that the metal is kept below the blue brittle range. Any defects exposed by the grinding shall be cleaned, filled with weld metal and reground to a uniform finish. The above shall apply to both parts of equal thickness and unequal thickness.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE
JULY 3, 1969
SUBMITTED FOR APPROVAL:- [signature]
DRAWING:- S46 OF S8
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2366

CHAS. W. COLE JR. REGISTERED P.E. NO. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AIT CK'D MHM
DRAWN MDM 8-22 CK'D CJC
TRACED WGH CK'D CEL

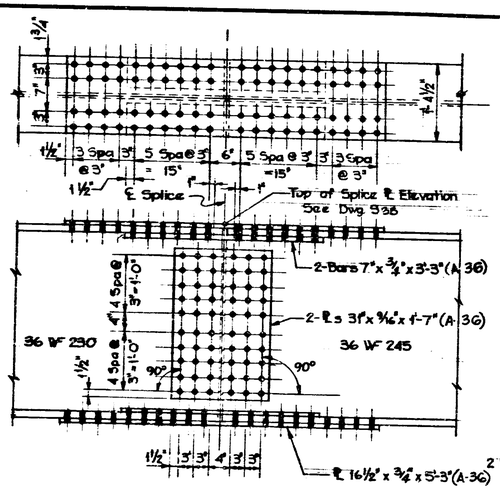
Rev 12-1-70 Notes, Shear Conn., T/C Diag. added
November 6, 1961

PROJECT NO.	LINE	SHEET NO.	SHEET TOTALS	FILE
		46		

Rev 12-1-70 Edg's & Wk, 12-10-70

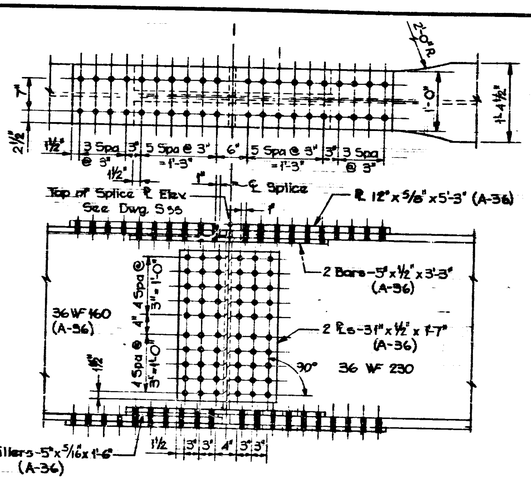
Rev 18-1-70 BJC; chk. 12-10-70 TCC
Rev 1-14-70 BJC; Chk JJW.

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	61	118



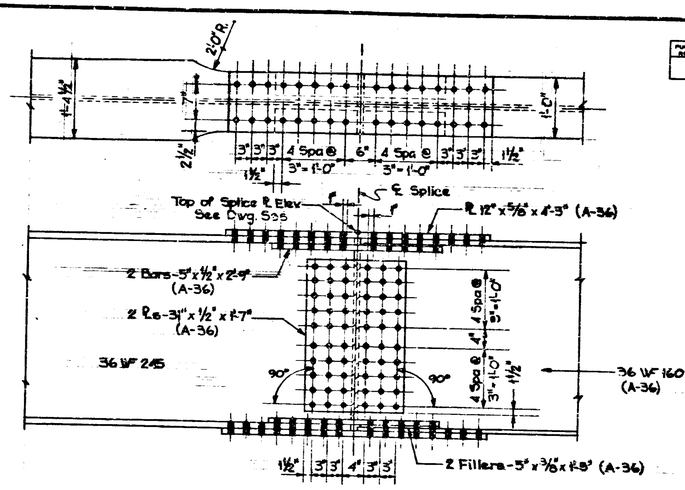
FIELD SPLICE NO. 5

(Note: Top & Bottom ℞s are to be the same)



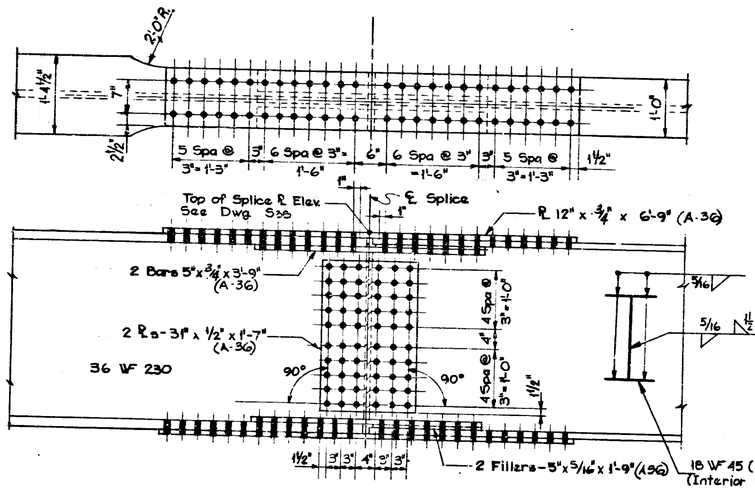
FIELD SPLICE NO. 7 (Except Bm. A6)

(Note: Top & Bottom ℞s are to be the same)



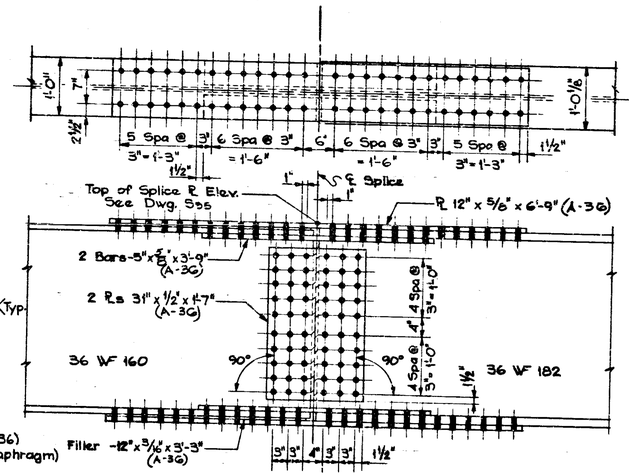
FIELD SPLICE NO. 6

(Note: Top & Bottom ℞s are to be the same)



FIELD SPLICE NO. 8

(Note: Top & Bottom ℞s are to be the same)



FIELD SPLICE NO. 9

(Note: Top & Bottom ℞s are to be the same)

Rev. 1-14-71 SPLICES
Rev. 12-1-70 STR. STEEL

Notes:
See Dwg. S 43 for Field Splice @ Bm. A6
See Dwg. S 46 for Structural Steel Notes.
Open holes to be 15/16" ϕ unless noted.

All Structural Steel on this sheet to be ASTM A572-50 except as noted.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- 547 OF 5-67
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

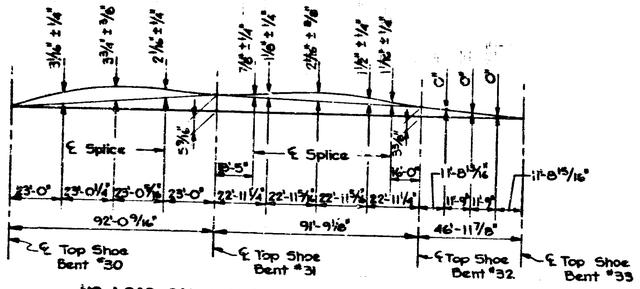
DESIGNED AJT C'K'D MHM
DRAWN WeH C'K'D JAHM
TRACED C'K'D

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

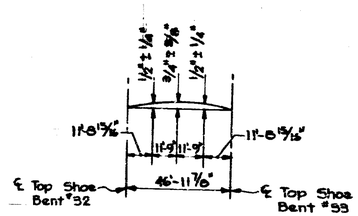
FED. ROAD SERIES NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	62	118

BRIDGES OVER 20' SPAN

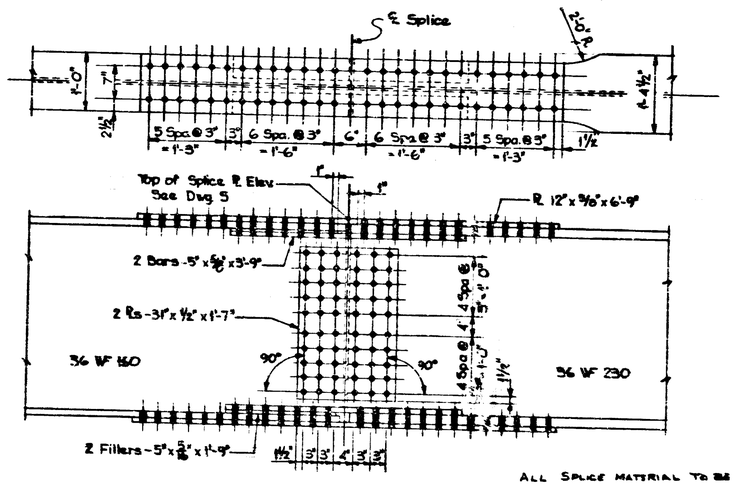
	TABLE I																					
	A	A1	A2	A3	B	C	D	E	F	G	H	J	K	L	M	N	N1	N3	N4	N8	P
R1	9'-9 1/16"	9'-11 1/16"	9'-11 1/16"	10'-5 1/16"	9'-1 0"	7'-7 5/8"	6'-3 1/4"	5'-11 1/16"	4'-9 1/16"	3'-3 3/8"	4'-7 1/4"	4'-1 1/4"	3'-1 1/4"	2'-3 1/16"	1'-7 1/16"	9/16"	1 1/2"	3'-1 1/16"	4'-9 1/16"	4'-1 1/2"	4'-1 1/2"
R2	11'-0 5/16"	1'-0"	1'-0"	1'-0 5/8"	11'-1 1/4"	9'-3 1/4"	8'-3 1/16"	7'-1 5/8"	5'-5 1/16"	4'-3 7/8"	6'-1 1/16"	5'-1 1/4"	4'-0"	2'-3 1/16"	1'-1 1/16"	9/16"	5/8"	5'-1 5/8"	6'-0"	5'-3 1/16"	5'-3 1/16"
R3	4'-5 1/16"	4'-5 1/16"	4'-5 1/16"	5'-3 1/16"	5'-0"	4'-3 1/8"	3'-3 3/16"	3'-1 1/4"	2'-3 1/4"	2'-1 1/4"	3'-1 1/8"	2'-7 1/16"	1'-5 1/16"	1'-1 1/16"	15/16"	7/16"	3/4"	3'-7 1/16"	3'-3 1/4"	3'-5 1/8"	3'-1 1/2"



NO LOAD CAMBER & REAMING DIAGRAM
Beam Line A_6

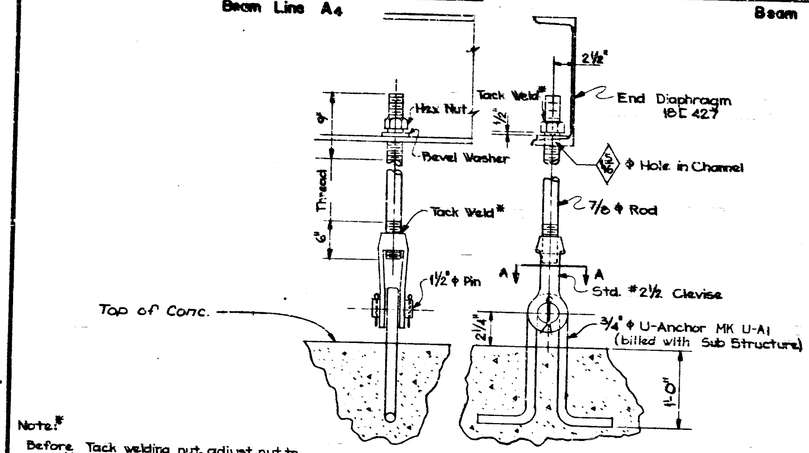


NO LOAD CAMBER DIAGRAM
Beam Line A_5



ALL SPLICE MATERIAL TO BE A-36

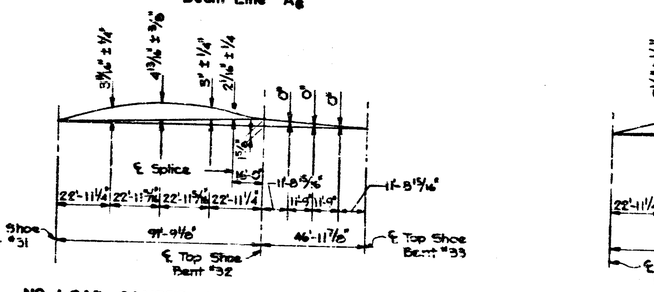
FIELD SPLICE NO. 7 (Bm. A_5 only)
(Note: Top & Bottom PLs are to be the same)



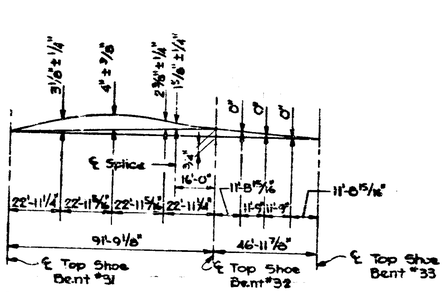
Note:*
Before Tack welding nut, adjust nut to give 1/2" clearance with clevise pin snugged up against U-Anchor.

CAPACITY = 7.5 Kips

TIE DOWN ASSEMBLY



NO LOAD CAMBER & REAMING DIAGRAM
Beam Line A_4



NO LOAD CAMBER & REAMING DIAGRAM
Beam Line N_2

Notes:
See Dwg. S15 for General Notes.
See Dwg. S46 for Structural Steel Notes.
See Dwg. S46 for Beam A_6
See Dwg. S45 for Beams A_4, A_5 & N_2
See Dwg. S48 for View A-A.

Open Holes to be 13/16" ϕ Unless Noted.

STRUCTURAL STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 5, 1969

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S48 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

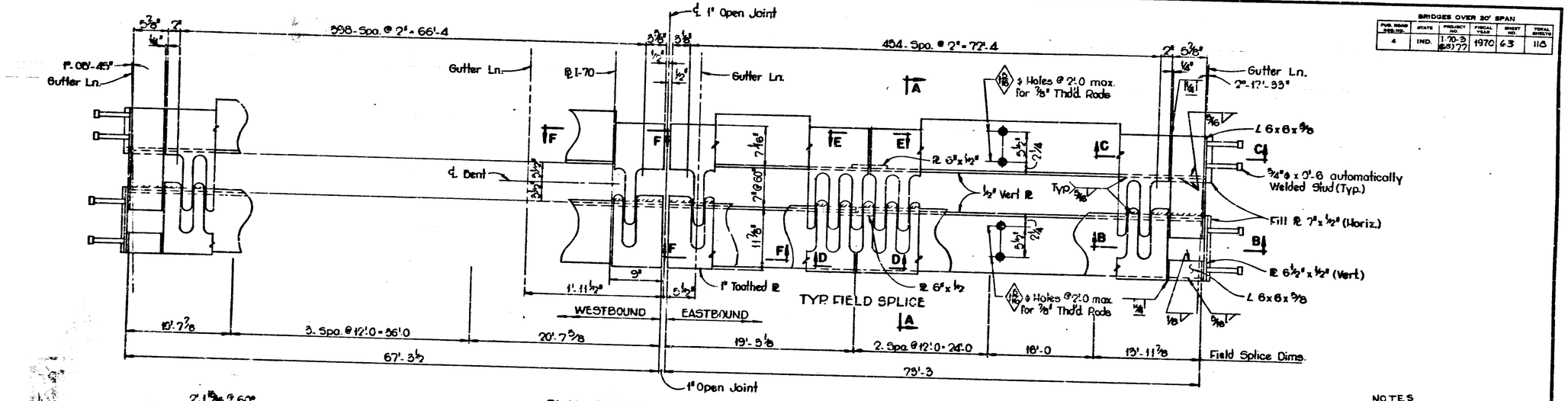
CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED RJT CK'D MHM
DRAWN WAH CK'D CEL
TRACED ____ CK'D ____

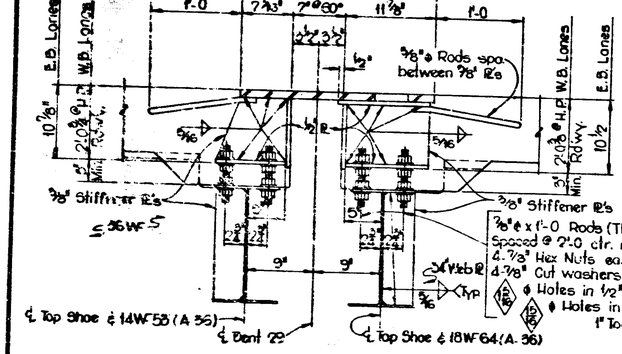
Rev 1-14-71 SPLICE

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

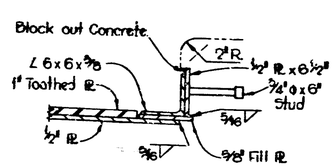
BRIDGES OVER 20' SPAN					
PUB. ROAD DES. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (85) 77	1970	63	118



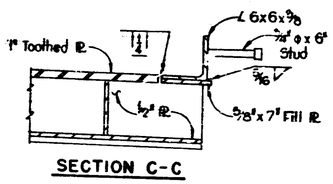
PLAN OF EXPANSION JOINT



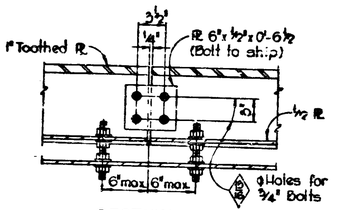
SECTION A-A



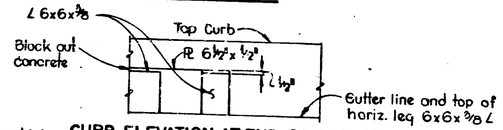
SECTION B-B



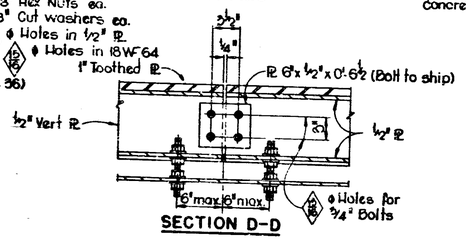
SECTION C-C



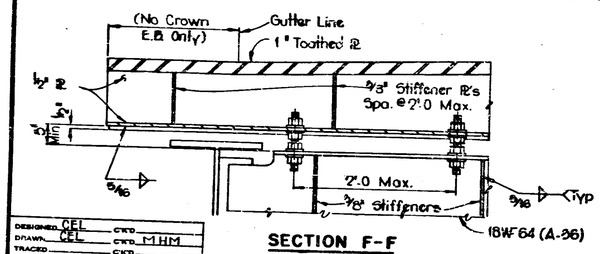
SECTION E-E



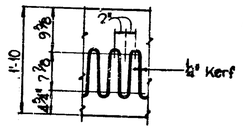
CURB ELEVATION AT END OF EXP. JOINT



SECTION D-D



SECTION F-F



TOOTH CUTTING DETAIL

NOTES

For General Notes see dwg. 3/3
For Structural Notes see dwg. 3/6
For estimated weight of Toothed Expansion Joint see dwg. 3/4
Top of Expansion Joint to conform to roadway crown.
See dwg. 3/5 for pavement offsets.
For General Erection Procedure see dwg. 5/62

All dimensions are given to the Centerline of cut.
See Specifications Art. 711.29 regarding burning of Toothed Plate
The Toothed Plate shall be match marked to maintain the same relative position before and after cutting.
All Structural Steel to be A-36
EXPANSION JOINTS ARE TO BE ASSEMBLED IN THE SHOP IN THEIR RELATIVE ERECTION POSITION AND INSPECTED FOR FIT.

Rev. 12-1-70 Notes

BENT 29 E.B. & W.B. TOOTHED EXP. JT. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 5, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S49 OF S67
PROJECT:- I-70-3(85) 77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

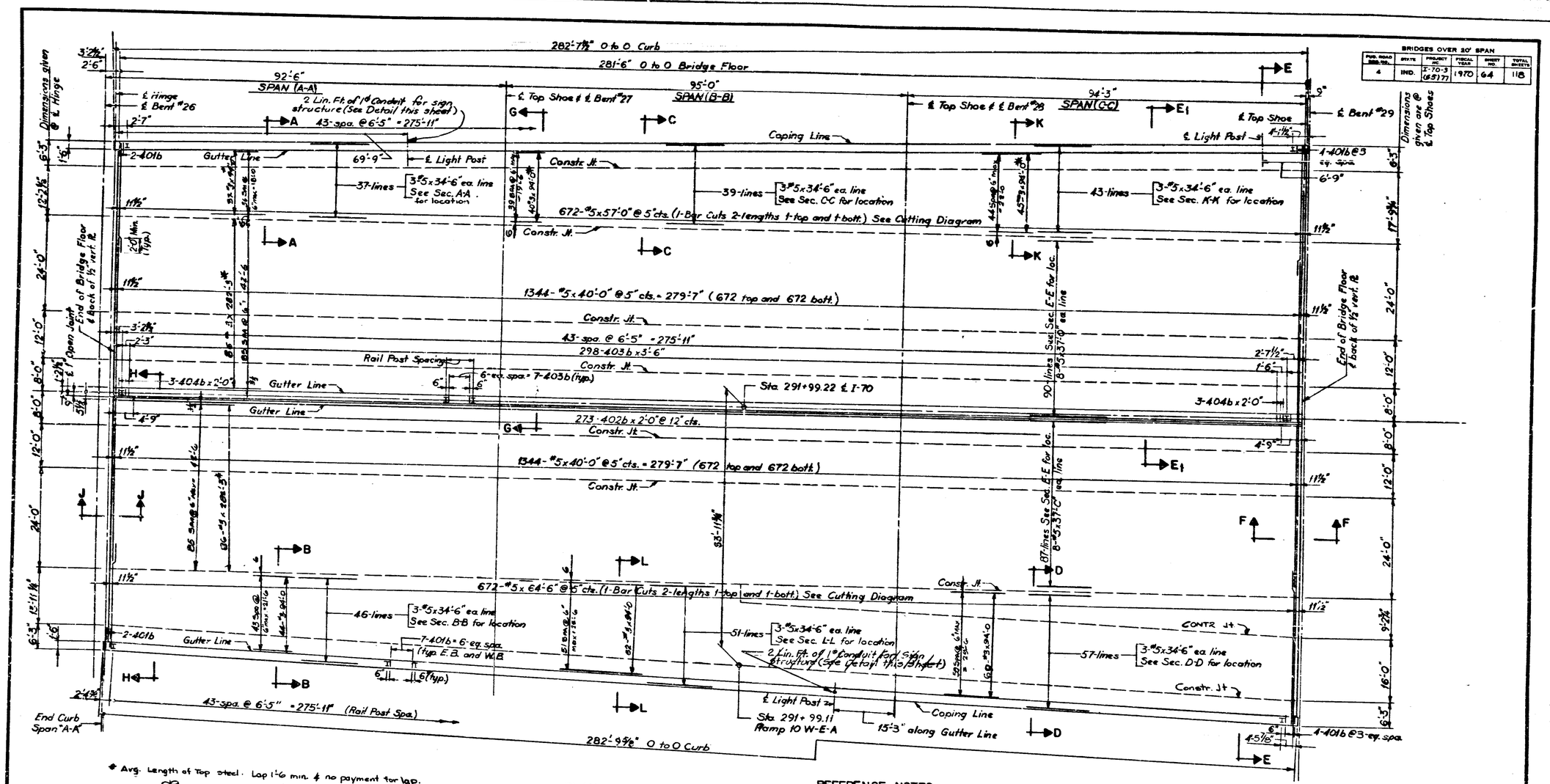
CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	CEL	CK'D	
DRAWN	CEL	CK'D	MHM
TRACED		CK'D	

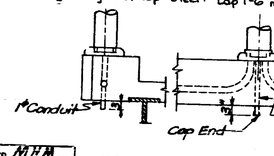
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev. 12-1-70 Eqs.; ch. 8-10-70

BRIDGES OVER 20' SPAN					
FED. ROAD DES. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	64	118



* Avg. Length of Top steel. Lap 1'-6 min. & no payment for lap.



DETAILS FOR PLACING 1" CONDUIT FOR SIGN STRUCTURE

DESIGNED A.I.T. CK'D M.H.M.
DRAWN E.D.C. CK'D M.H.M.
TRACED CK'D

PLAN
Scale 3/32" = 1'-0"

NOTES
FLOOR FORMS SHALL NOT BE BLOCKED BETWEEN ADJACENT BEAMS AT OPEN JOINT. IF BLOCKING IS USED BOTH SIDES SHALL BE POURED SIMULTANEOUSLY.
AFTER STRUCTURAL STEEL HAS BEEN ERECTED, CONCRETE FORMS SHALL NOT BE BLOCKED AGAINST THE EXPANSION END OF STEEL TO MAKE ANY JOINTS ADJACENT TO STEEL SPAN.

Rev. 3-10-71 1" Conduit
Rev. 1-14-71 1" Conduit for Sign Structure,
Rev. 12-1-70 Notes, Long. Reinf. Steel #3 added

REFERENCE NOTES
See Dwg. S55 & 56 for Corner Details.
See Dwg. S13 for General Notes & General Plan.
See Bridge Standard R-2A for Bridge Lighting Details.
See Dwg. S55 for Sections 'A-A', 'B-B', 'C-C', 'D-D', 'K-K' and 'L-L'.
See Dwg. S56 for Sections 'E-E'.
See Dwg. S57 for Sections 'G-G' and 'H-H' and 'F-F'.
See Dwg. S65 for Bill of Materials.
See Dwg. S63 for Pour Diagram.
See Bridge Std. C1 for Reinf. Bar Notes.

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED JULY 5, 1969
SUBMITTED FOR APPROVAL:- [signature]
DRAWING:- 350 OF 367
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

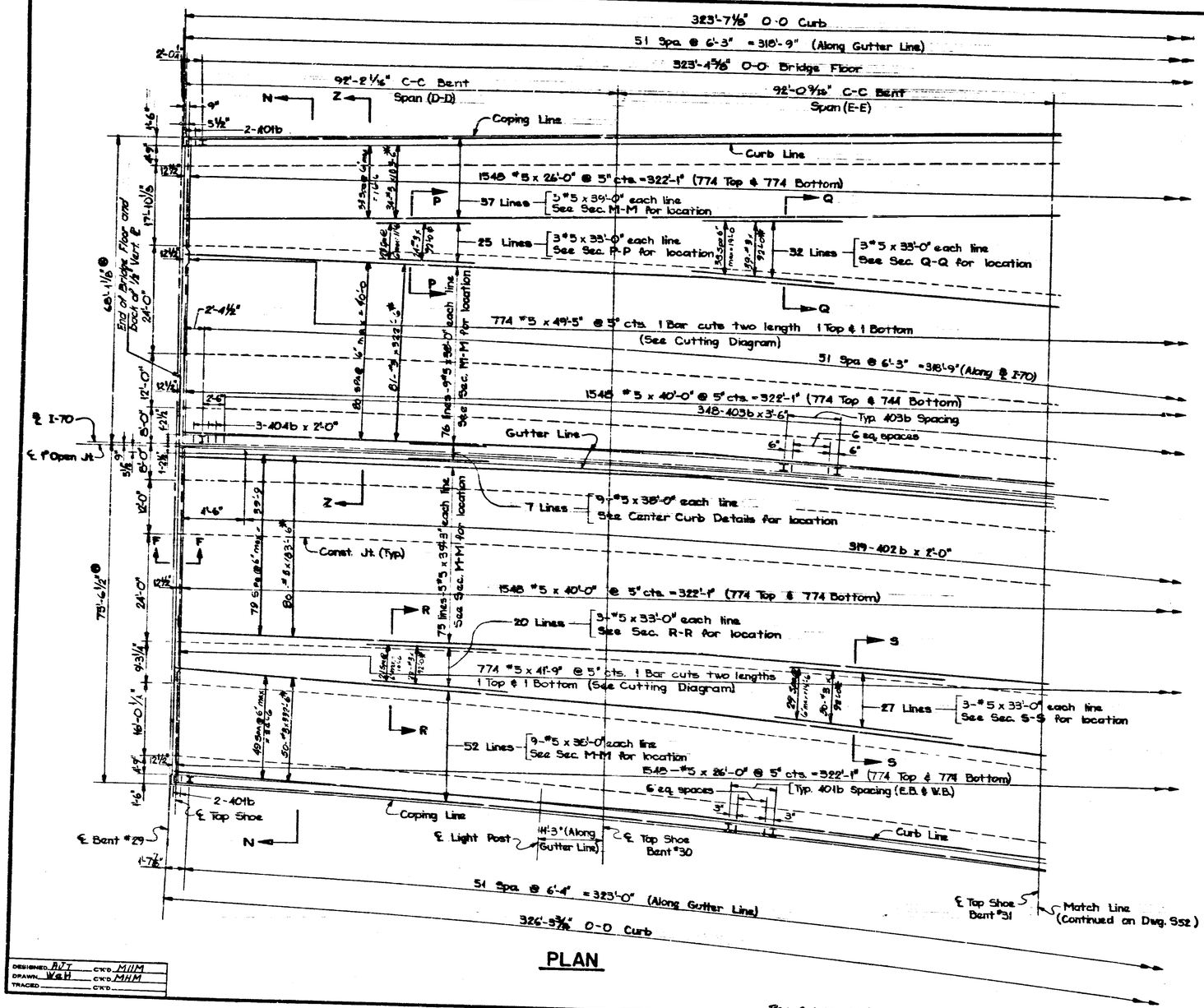
CHAS. W. COLE, JR. REGISTERED No. 3552 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev. 12-1-70 add'l info. 1-20-70 TEC
Rev. 1-14-71 CVW

Rev 12-1-79 B4E; chk. 12-10-79 TCC

BRIDGES OVER 20' SPAN					
FUN. HWAY SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	65	118



PLAN

Reference Notes:
- See Dwg. S65 for Bill of Material.
- See Dwg. S64 for Pour Diagram.
- See Br. Std. C1 for Reinf. Bar Notes.
- See Dwg. S53 & S54 for Corner Details.
- See Dwg. S1B for General Notes and General Plans.
- See Br. Std. R2A for Bridge Lighting Details.
- See Dwg. S53 for Sections P-P, Q-Q, R-R & S-S.
- See Dwg. S59 for Section F-F.
- See Dwg. S60 for Section N-N.
- See Dwg. S61 for Section Z-Z.

After structural steel has been erected, Concrete forms shall not be blocked against the expansion end of steel in making any pours adjacent to steel spans. Floor forms shall not be blocked between adjacent beams at open joint. If blocking is used both sides shall be poured simultaneously.

⊗ Dimensions shown are at ℄ Top Shoe.

* Avg. Length in top steel. Lap 1'-6 Min & NO payment for lap.

SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 5, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S51 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

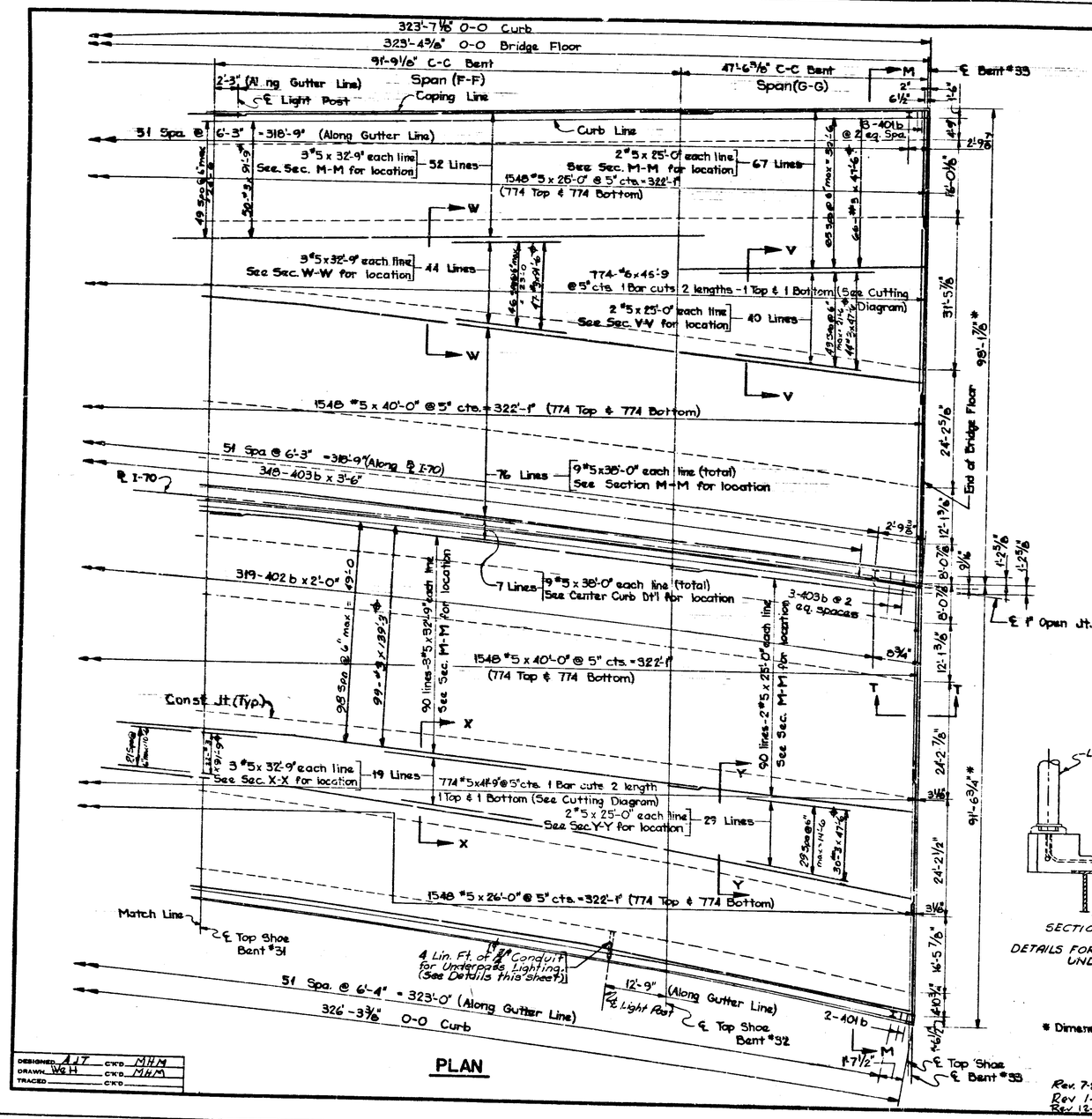
DESIGNED AJT — CK'D MJM
DRAWN W&H — CK'D MJM
TRACED — CK'D —

Rev 12-1-79 Notes, Leap Reinf Steel "a" added

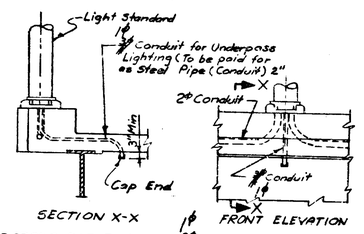
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Revd 1-7-70 EJC; Chk. 12-10-70 TEC
Rev 1-14-71 JJW.

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	66	116



PLAN



DETAILS FOR PLACING 3/4" CONDUIT FOR UNDERPASS LIGHTING.

* Dimensions shown are at ℄ Top Shoe

Rev. 7-9-71 Conduit Size
Rev 1-14-71 3/4" Conduit for Underpass Lighting Added.
Rev 12-1-70 Notes, Long. Reinf. Steel #3 added

Reference Notes:
See Dwg. S65 for Bill of Material
See Dwg. S64 for Pour Diagram.
See Br. Std. C1 for Reinf. Bar Notes.
See Dwgs. S53 & S54 for Corner Details.
See Dwg. S58 for Sections W-W, V-V, X-X and Y-Y
See Dwg. S59 for Sections M-M and T-T.
See Dwg. S13 for General Notes and General Plan.
See Br. Std. R2A for Bridge Lighting Details.
See Dwg. S51 for Additional Notes.

+ Avg. length of top steel. Lap 1'-6 max; no payment for lap.

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:

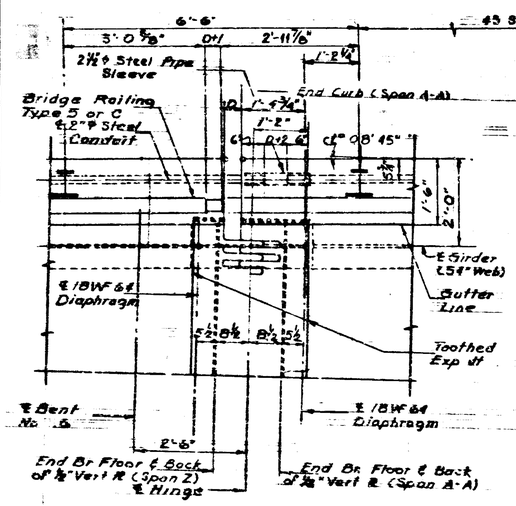
DRAWING:- S52 OF S 87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

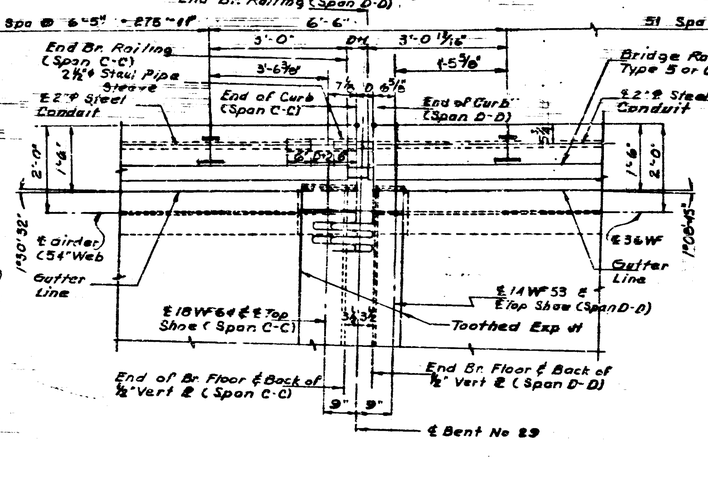
CHAS. W. COLE JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

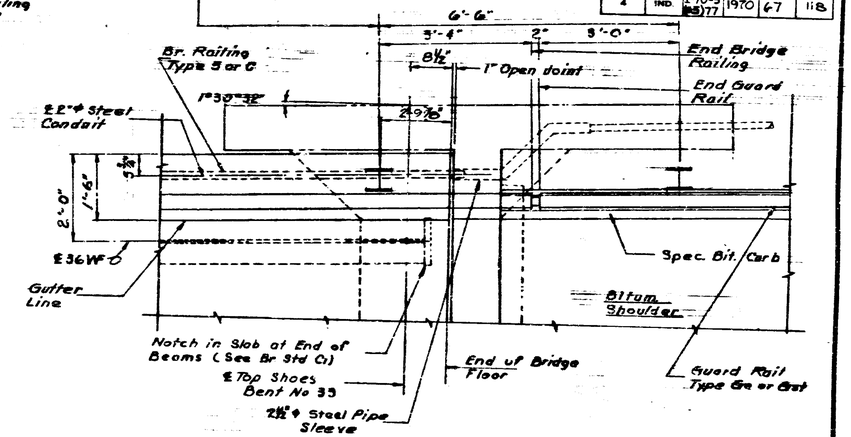
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

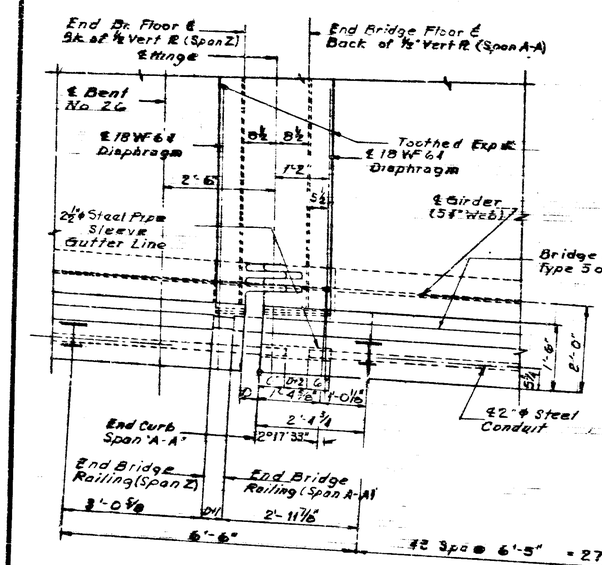
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (85)177	1970	47	118

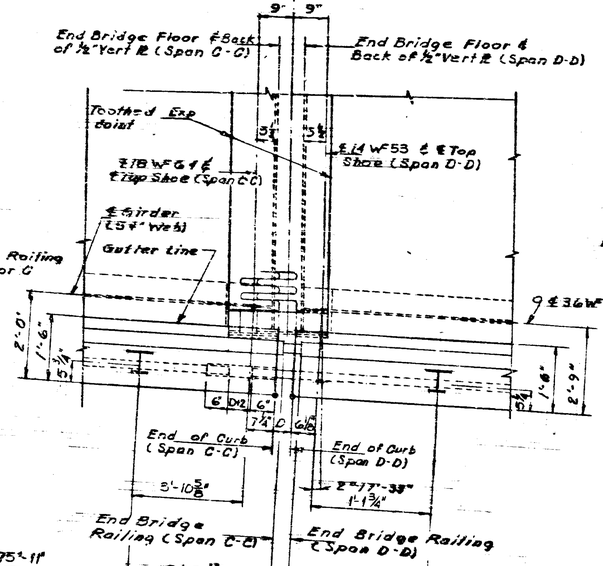
BRIDGES OVER 20' SPAN

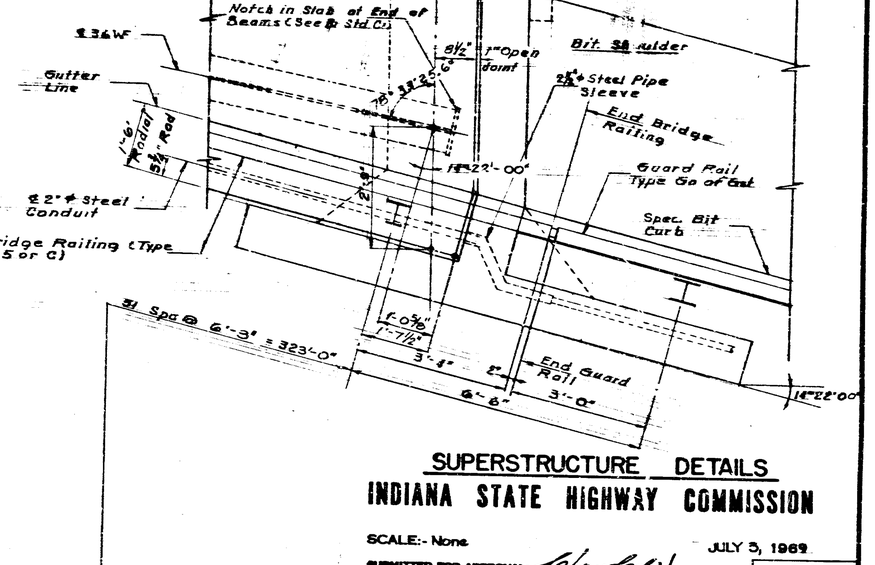












SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None. JULY 3, 1969

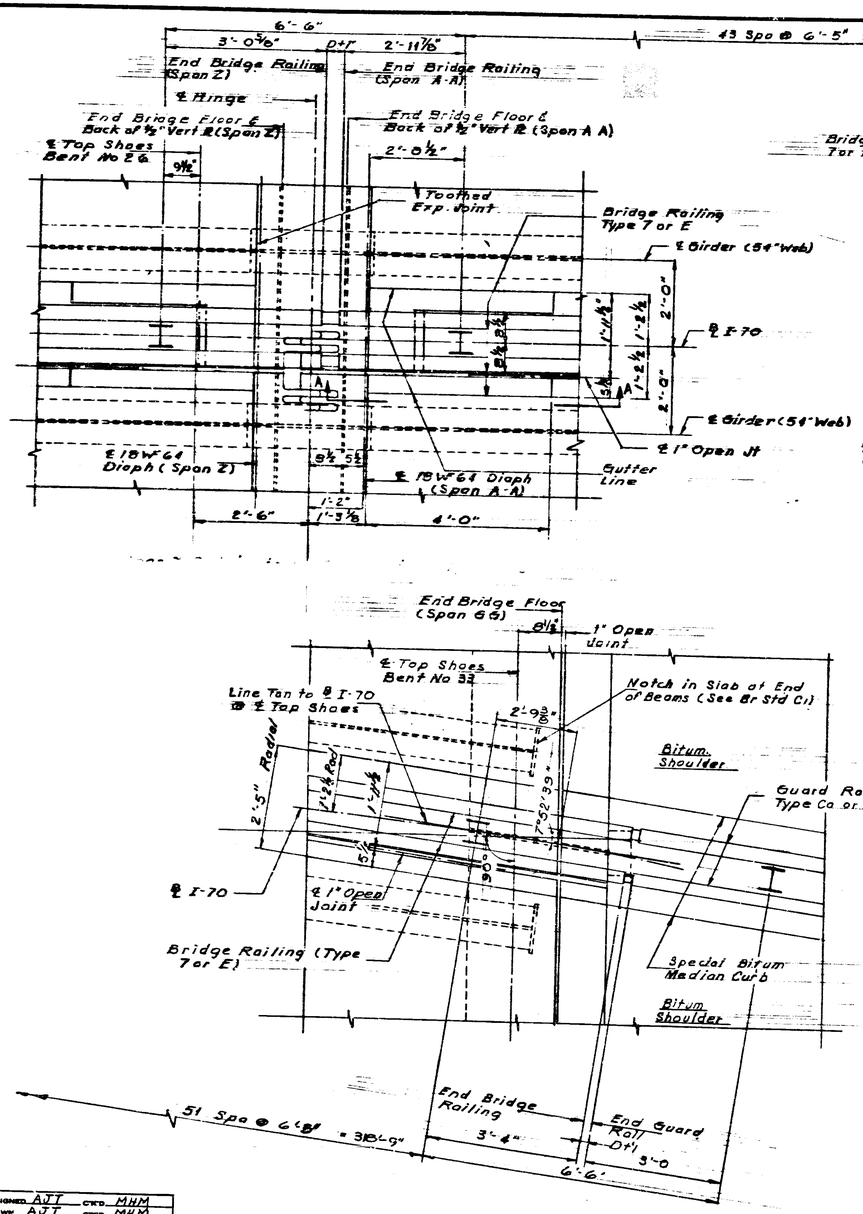
SUBMITTED FOR APPROVAL:

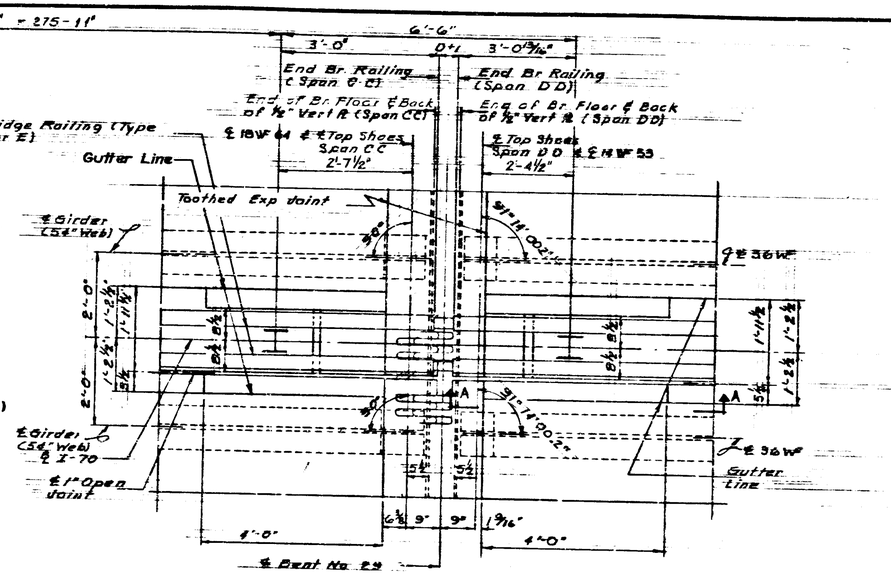
DRAWING:- 353 OF 567
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

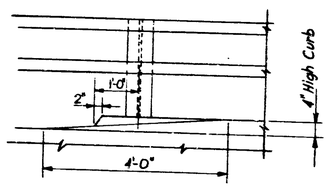
CHAS. W. COLE JR. REGISTERED No. 3453 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT C'K'D MHM
DRAWN AJT C'K'D MHM
TRACED C'K'D

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE







SECTION A-A

BRIDGES OVER 20' SPAN

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (68)177	1970	68	118

DESIGNED AJT C'K'D MHM
DRAWN AJT C'K'D MHM
TRACED C'K'D

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None JULY 3, 1969

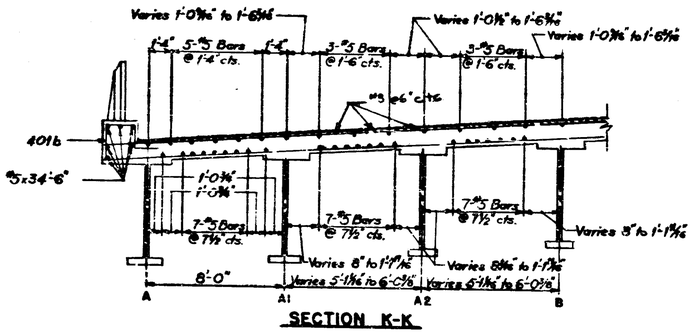
SUBMITTED FOR APPROVAL:- Chas W Cole

DRAWING:- 354 OF 367
PROJECT:- I-70-3(68)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2326

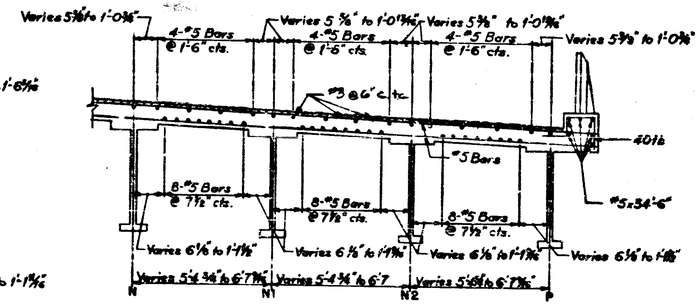
CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

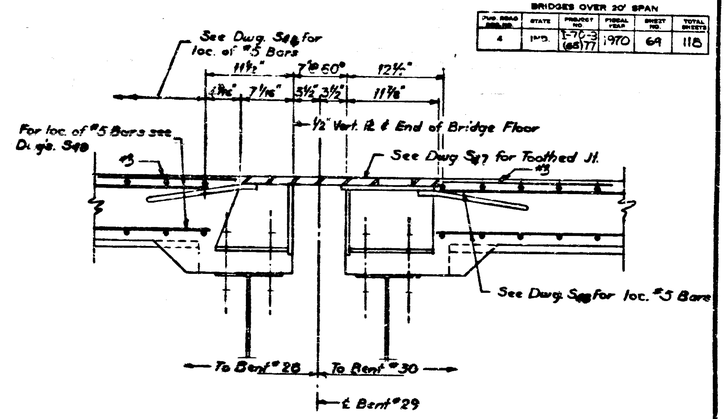
BRIDGES OVER 20' SPAN					
FED. ROAD DESIGN	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (68)77	1970	69	118



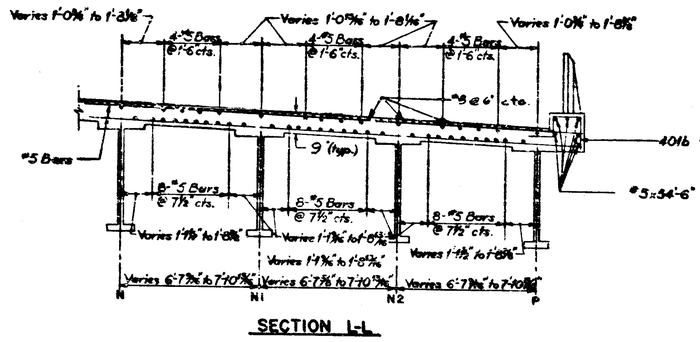
SECTION K-K



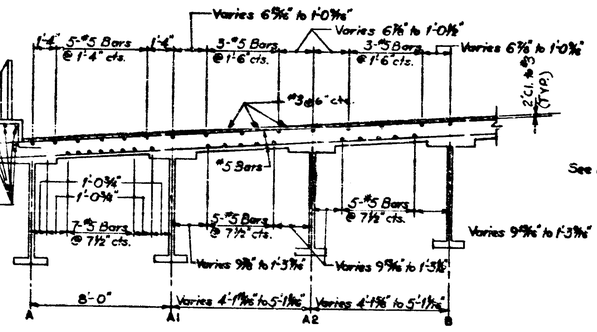
SECTION B-B



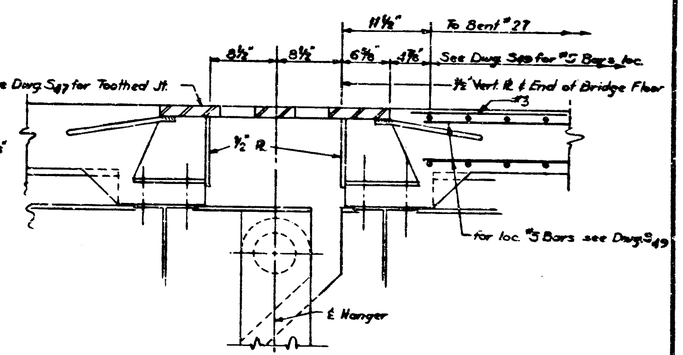
SECTION F-F



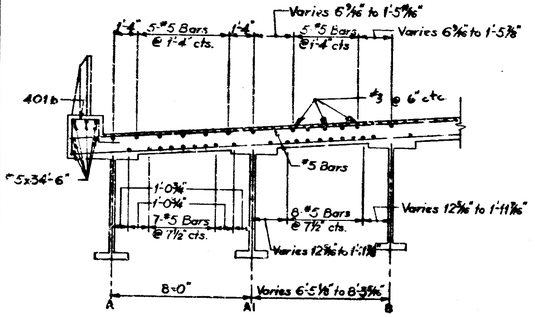
SECTION I-L



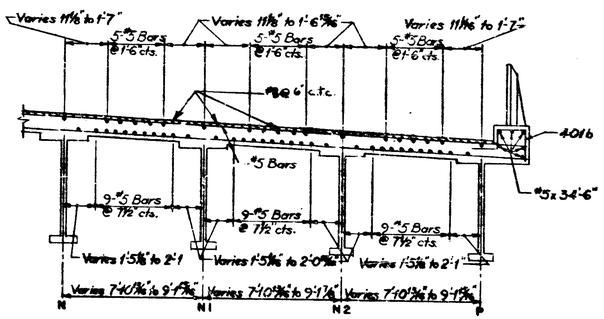
SECTION C-C



SECTION J-J



SECTION A-A



SECTION D-D

Reference Notes:
See Dwg. S50 for location of Sections A-A, B-B, C-C, D-D, K-K, L-L, F-F and J-J.
See Br. Std. C1 for Reinf. Bar Notes.

SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None. JULY 5, 1969

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S45 & S47
PROJECT:- I-70-5(5)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT CK'D MHM
DRAWN EDC CK'D MHM
TRACED CK'D

Rev 12-1-70 BPC CHK. 12-10-70
Rev 1-14-71 EJC CHK. J.W.W.

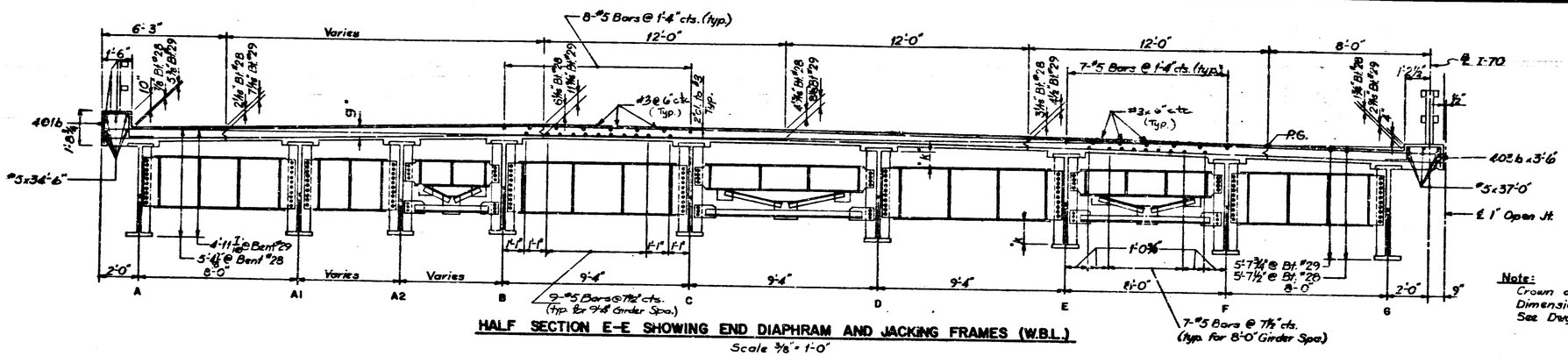
Rev 1-14-71 Reinf Clearance.
Rev 12-1-70 Slab thickness; Long. Reinf. Bars #3 added

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FIL.

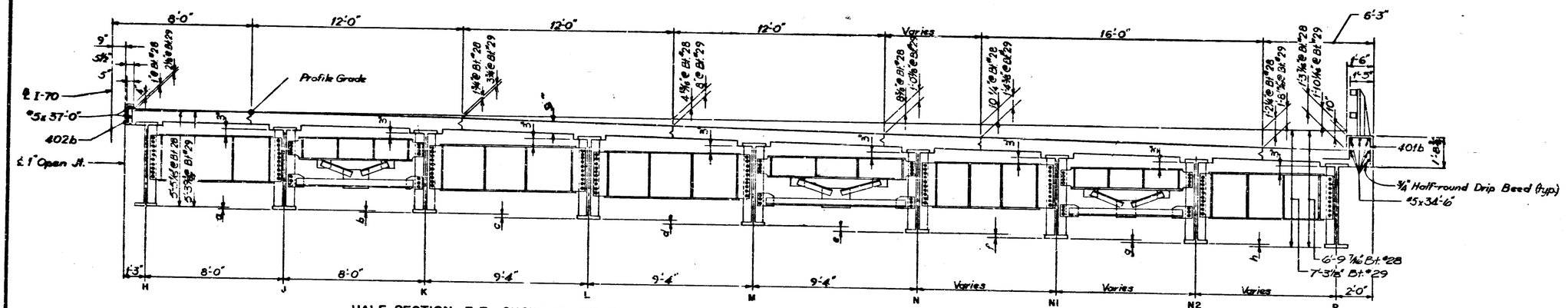
Rev 12-1-70 EJC; CHK. 12-14-70 TCC
Rev 1-14-71 EJC; Chk J.W.

E-RIDGES OVER 20' SPAN

FED. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-5 (65)177	1970	70	148



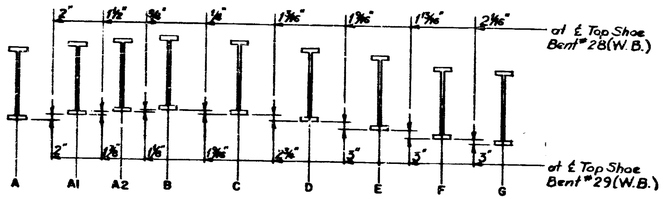
HALF SECTION E-E SHOWING END DIAPHRAM AND JACKING FRAMES (W.B.L.)
Scale 3/8" = 1'-0"



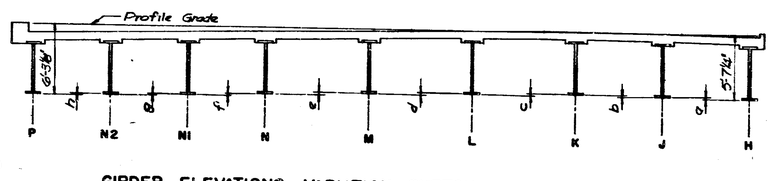
HALF SECTION E-E SHOWING END DIAPHRAM AND JACKING FRAMES (E.B.L.)
Scale 3/8" = 1'-0"

Girder Elevations Variation Table for E.B.L.*								
Bent No.	a	b	c	d	e	f	g	h
27	1 9/16"	3/8"	1"	1 5/16"	2"	1 1/8"	1 1/16"	1 11/16"
28	1 3/16"	1 7/16"	2 3/16"	2 9/16"	2 7/8"	2 11/16"	2"	2"
29	2 1/2"	2 1/16"	3 5/16"	3 9/16"	3 11/16"	2 7/8"	2 9/16"	2 9/16"

*Dimensions given are at ℄ Top Shoes.



GIRDER ELEVATIONS VARIATION SKETCH
at ℄ Top Shoe Bent # 28 (W.B.)
at ℄ Top Shoe Bent # 29 (W.B.)
No Scale



GIRDER ELEVATIONS VARIATION SKETCH
at ℄ Top Shoe Bent # 27 (E.B.L.)
No Scale

Rev 1-14-71 Reinf. Clear.
Rev. 12-1-70 Constr. depth, Slab thickness, Half-round drip bead, Long. Reinf. Bar #3 added

DESIGNED A.J.T. CK'D. M.H.M.
DRAWN E.D.C. CK'D. M.H.M.
TRACED CK'D.

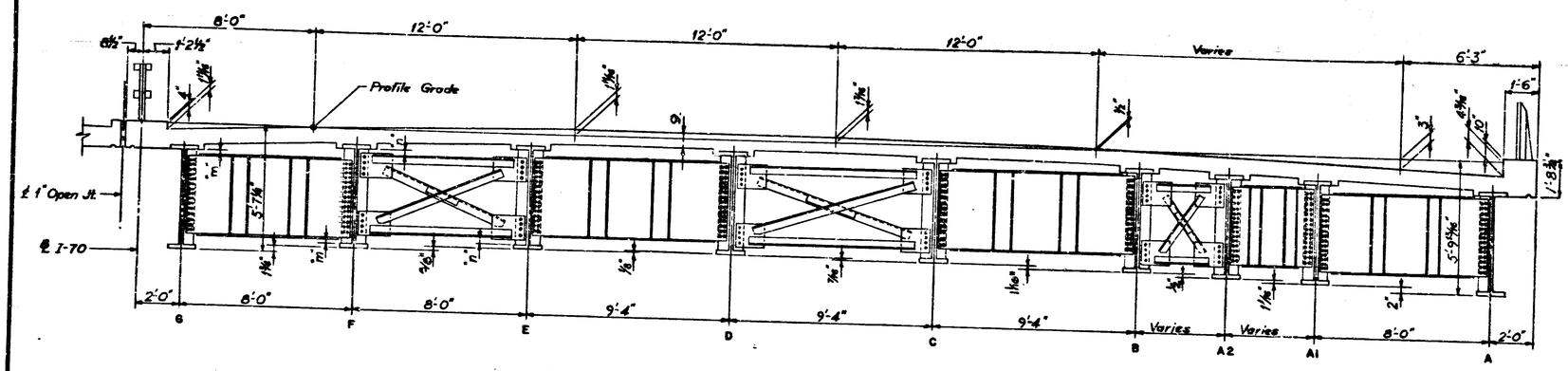
SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED
SUBMITTED FOR APPROVAL:- JULY 3, 1969
DRAWING:- S56 OF 587
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- T-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

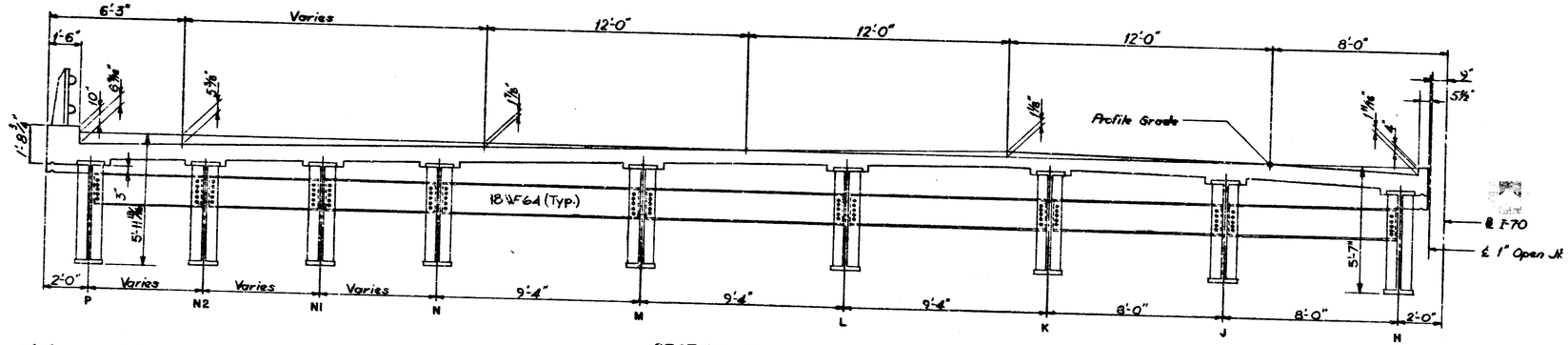
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND	I-70-3 (58)77	1970	71	118

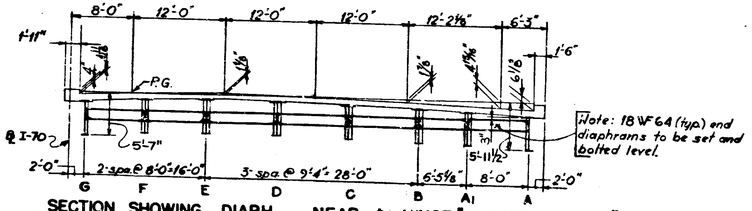


SECTION G G SHOWING INT. DIAPH. AND JACKING FRAMES - BENT N°27 (W.B.)

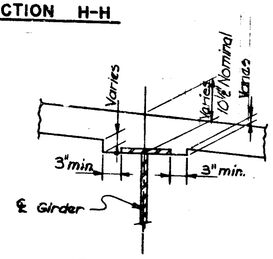
Notes:
Crown offsets shown are at ℄ Top Shoe
Dimension "m" is equal, (±1")
Dimension "n" is equal, (±1")
See Dwg. S50 for location of Section G-G and H-H.



SECTION H-H



SECTION SHOWING DIAPH. NEAR ℄ HINGE "W.B. BENT Nº 26"
No Scale



TYPICAL FILLET

DESIGNED A.J.T. CK'D M.H.M.
DRAWN E.D.C. CK'D M.H.M.
TRACED CK'D

Rev. 12-1-70 Slab thickness, Bott. of Beam Differences

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None JULY 3, 1969

SUBMITTED FOR APPROVAL:

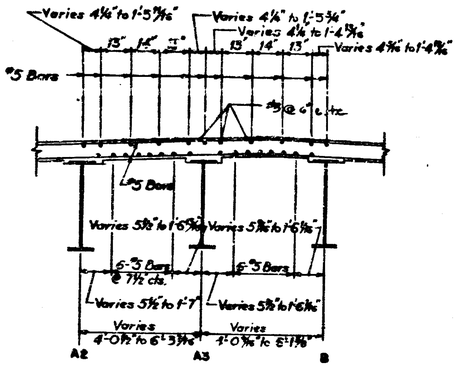
DRAWING:- S57 OF S 87
PROJECT:- I-70-3(58)77
BRIDGE CONTRACT NO. C-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

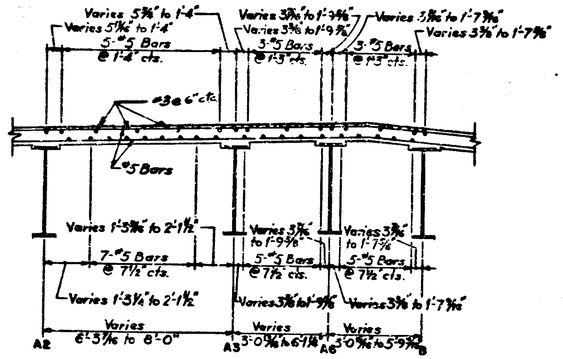
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev. 12-1-70 Eng. Chg. 12-10-70 TDC

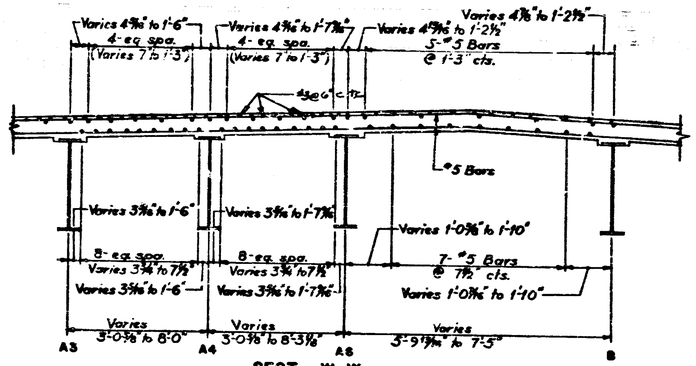
Rev 12-1-70 EJC; Chnd. 12-10-70 TCC
Rev 1-14-71 EJC; Chnd. J.J.W.



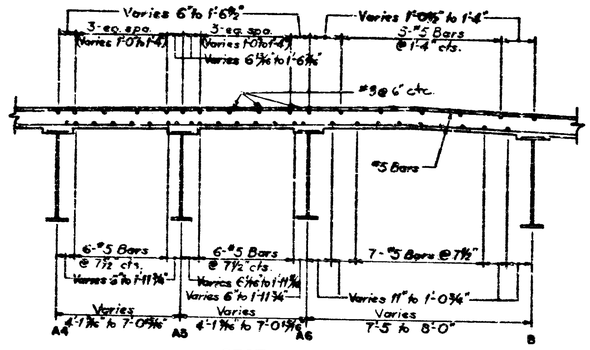
SECT. P-P



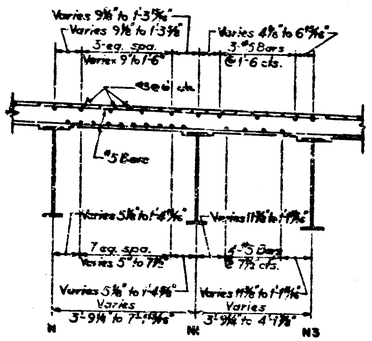
SECT. Q-Q



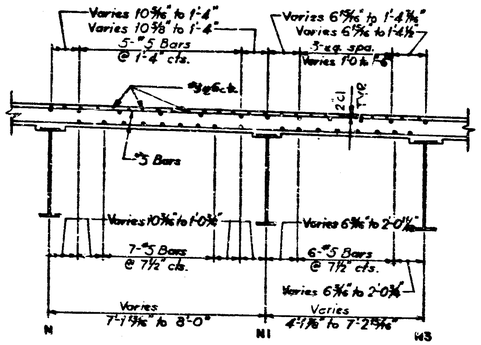
SECT. W-W



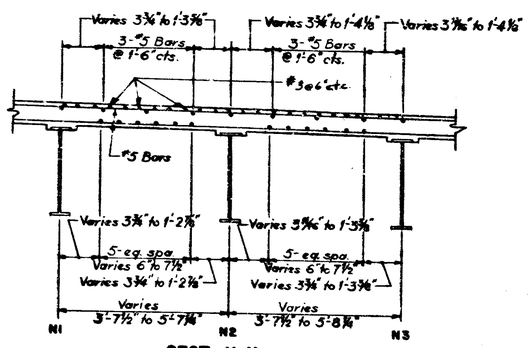
SECT. V-V



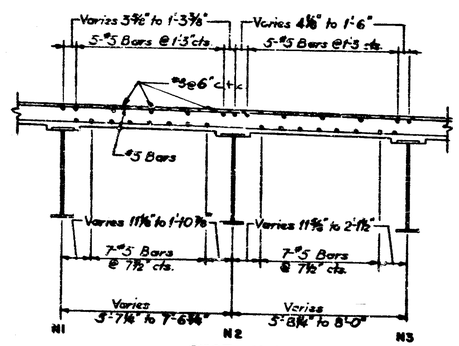
SECT. R-R



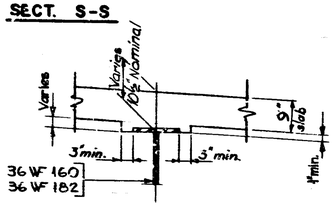
SECT. S-S



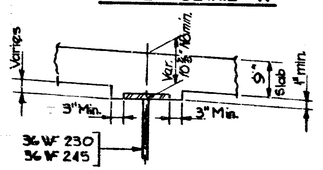
SECT. X-X



SECT. Y-Y



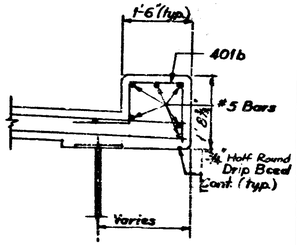
FILLET DETAIL "A"



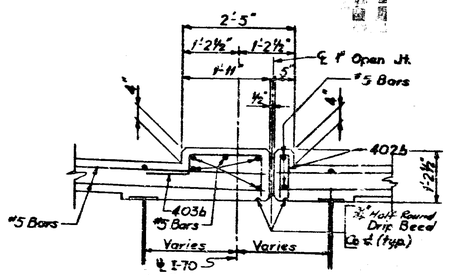
FILLET DETAIL "B"

BRIDGES OVER 20' SPAN

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)177	1970	72	118



1'-6" CURB DETAIL



2'-5" MEDIAN CURB DETAIL

Reference Notes:
See Dwg. S51 for Sections P-P, Q-Q, R-R and S-S.
See Dwg. S52 for Sections W-W, V-V, X-X and Y-Y.
See Br. Std. C1 for Reinf. Bar Notes.

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None JULY 5, 1969

SUBMITTED FOR APPROVAL:- Thomas Gobbett

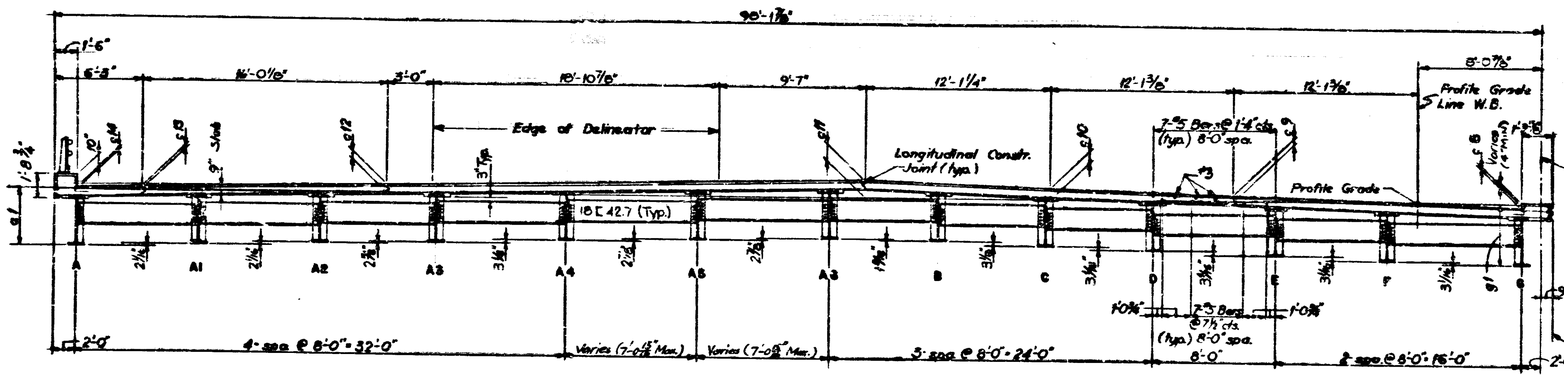
DRAWING:- S58 OF S87
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT CK'D MHM
DRAWN EDC CK'D MHM
TRACED CK'D

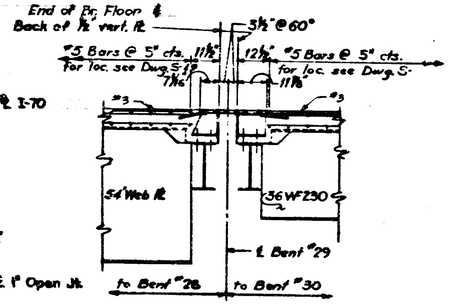
Rev 12-1-70 Slab thickness, Half Round Drip Bead; Long. Reinf. Bar #3 added

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	73	118

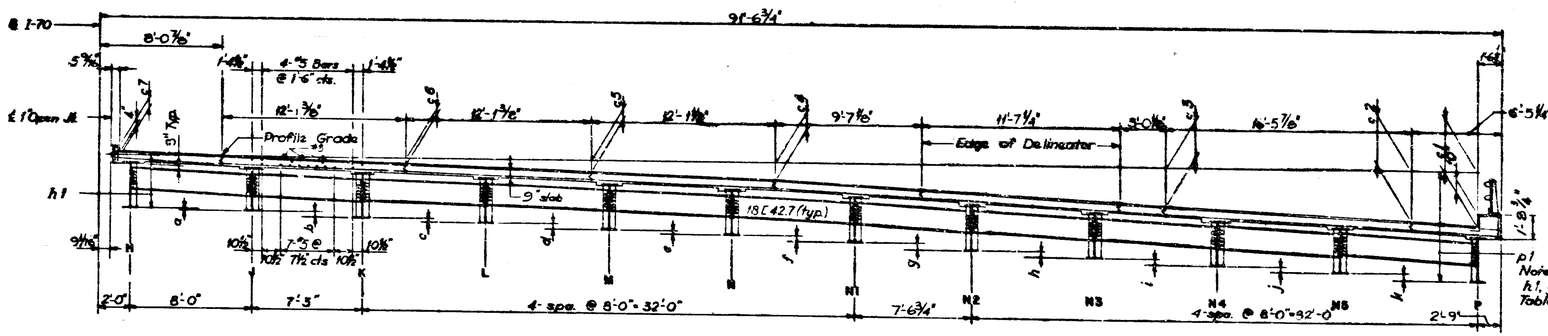


Note: Dimension shown for Section M-M (W.B. & E.B.) are at ℄ Top Shoe Bent "33

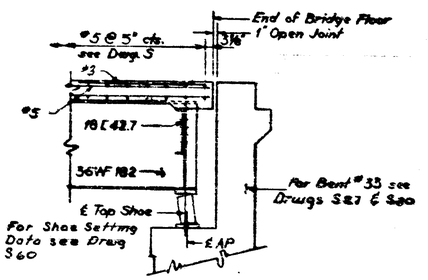
W.B. SECTION M-M
Scale ¼" = 1'-0"



SECT. F-F
Scale ½" = 1'-0"



E.B. SECTION M-M
Scale ¼" = 1'-0"



SECT. T-T
Scale ½" = 1'-0"

Reference Notes:
See Dwg. S-52 for location of Sections T-T and M-M.
See Dwg. S-51 for location of Sections F-F.

TABLE OF CROWN VARIATION FROM PROFILE GRADE *														
Bent	c1	c2	c3	c4	c5	c6	c7	c8	c9	c10	c11	c12	c13	c14
"33	3'-8¼"	3'-5⅛"	2'-6⅝"	1'-1⅜"	9⅛"	4⅝"	2⅝"	2⅝"	4⅛"	9⅝"	1'-2⅛"	1⅜"	2¾"	3⅛"

STRINGER ELEVATION VARIATION E.B.L. *											
Bent	a	b	c	d	e	f	g	h	i	j	k
"31	4⅛"	3¾"	4⅛"	4⅛"	4⅛"	3⅝"	1⅜"	1¼	3⅝"	3⅜"	3⅜"
"32	3½"	3⅝"	3⅜"	3½"	3⅝"	4⅜"	3⅛"	3⅜"	4⅛"	4⅛"	4⅛"
"33	3⅛"	2¾"	3"	2⅝"	2⅝"	4⅜"	5⅜"	5⅝"	5⅜"	5⅛"	5⅛"

* Dimensions shown are at ℄ Top Shoes.

DESIGNED AJT CK'D MHM
DRAWN EQC CK'D MHM
TRACED CK'D

Rev. 12-1-70 Slab thickness, Long. Reinf. Bar #3 & Beam Spacing added.

Rev. 12-1-70 EQC, Chk. 12-10-70 TFC

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

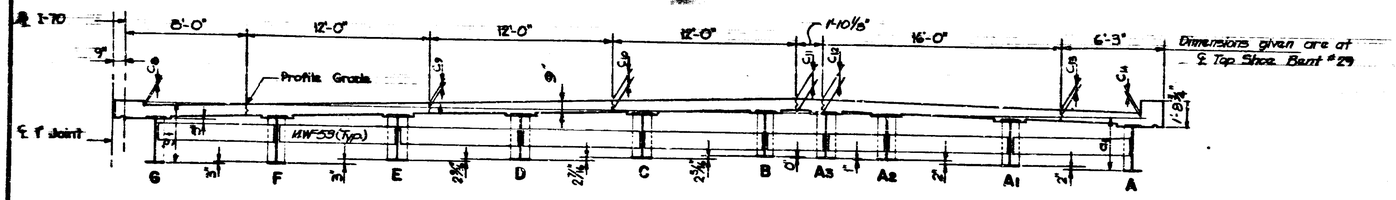
SCALE:-As Noted JULY 5, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S-49 OF S-67
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:-I-70-77-2386

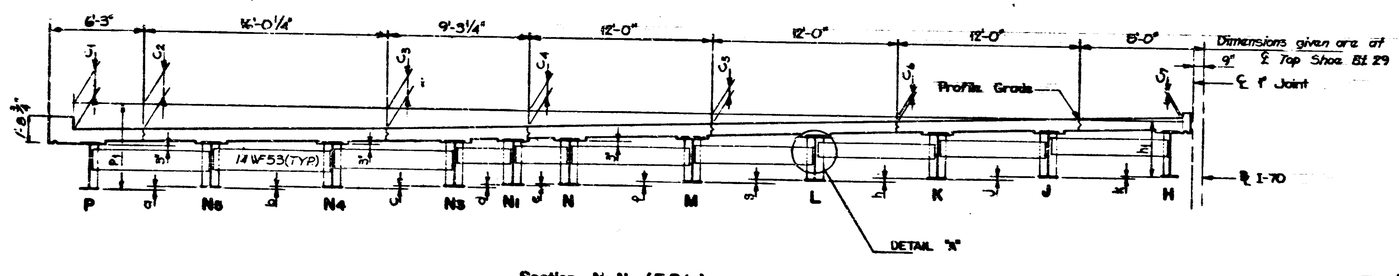
CHAS. W. COLE, JR. REGISTERED No. 3433 STATE PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

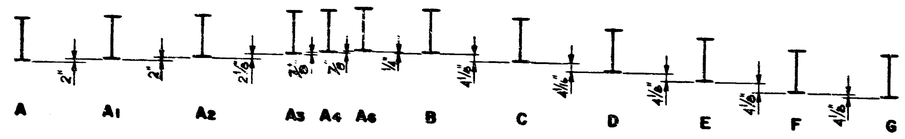


Note: Dimensions shown for Stringer elevations variation are at ℄ Top Shoe Bent #29.

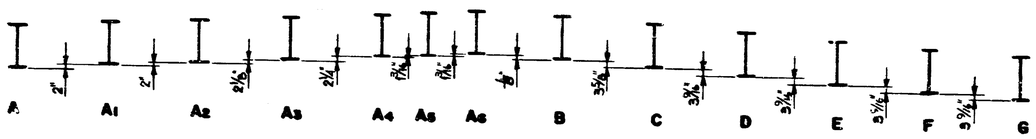
Section N-N (W.B.L)
Showing Diaphragms @ Bent #29



Section N-N (E.B.L)
Showing Diaphragms @ Bent #29

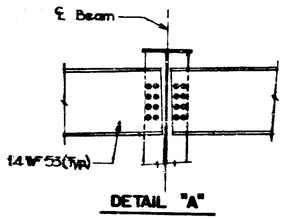


Stringer Elevations Variation for Bent #31 (W.B.L)
(@ ℄ Top Shoe)



Stringer Elevations Variation for Bent #32 (W.B.L)
(@ ℄ Top Shoe)

Stringer Elevations Variation for Bent #30 (W.B.L)
(@ ℄ Top Shoe)



DETAIL "A"

BRIDGES OVER 20' SPAN					
FED. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(5)177	1970	74	118

Table of Crown Variation from Profile Grade*

Bent	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
#29	1'-10⅛"	1'-8⅝"	1'-4⅞"	1'-1⅛"	0'-8⅜"	0'-3¾"	2⅛"	2⅜"	4½"	6⅜"	11⅛"	11⅛"	7⅛"	5⅝"
#30	2'-4⅜"	2'-2⅜"	1'-8¾"	1'-5⅞"	1'-3⅛"	5⅛"	3⅜"	3⅝"	5⅞"	11⅜"	1'-5"	1'-2¾"	10¾"	9⅞"
#31	2'-10⅝"	2'-8⅝"	2'-0"	1'-6⅝"	1'-0⅝"	6¼"	3⅝"	3⅞"	6¼"	1'-0⅜"	1'-6⅝"	1'-2⅝"	10⅜"	9⅝"
#32	3'-4⅜"	3'-1⅜"	2'-3⅜"	1'-9"	1'-1"	10½"	5⅝"	3"	3⅛"	5⅜"	10"	1'-4⅛"	9⅝"	5¼"	4"

STRINGER ELEVATIONS VARIATION FOR E.B.L.*										
BENT	a	b	c	d	e	f	g	h	j	k
#29	2¼"	2¼"	2⅛"	1⅞"	1½"	3⅜"	3"	2⅜"	2⅛"	2⅛"
#30	3"	3"	2⅞"	1⅛"	2¼"	3⅛"	3⅛"	3⅛"	3⅛"	3⅛"

Table I*

Bent	a1	g1	h1	p1
#29	3'-3⅞"	3'-11¾"	3'-7⅝"	5'-7 ½
#30	2'-11 ⅜"	4'-0 ⅛"	3'-6⅞"	6'-1⅜"
#31	2'-11¾"	4'-0⅝"	3'-6½"	6'-7⅛"
#32	3'-5½"	4'-0¾"	3'-7⅜"	7'-1½"
#33	4'-1½"	4'-0"	3'-7⅜"	7'-5⅜"

* Dimensions given are at ℄ Top Shoes.

Note:
See Table I for dimension a_1, g_1, h_1 & p_1.
See Dwg. 551 for location of Section N-N.

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S60 OF S 87
PROJECT:- I-70-3(5)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

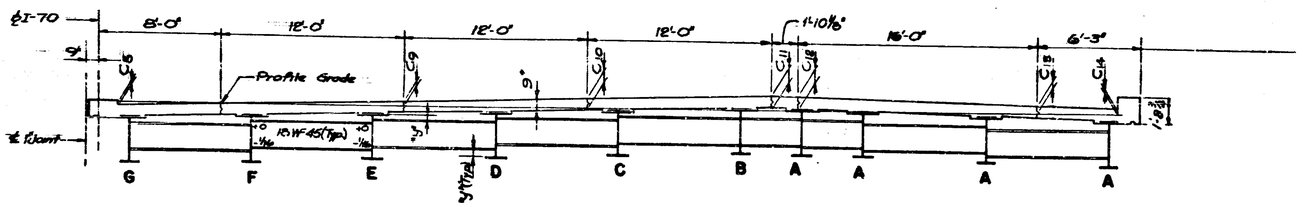
DESIGNED AJT CK'D MHM
DRAWN WRH CK'D MHM
TRACED CK'D

Rev. 12-1-70 SLAB thickness, Batt of Beam Variations.

Rev 12-1-70 S.E.; Chk. 12-10-70 TCG

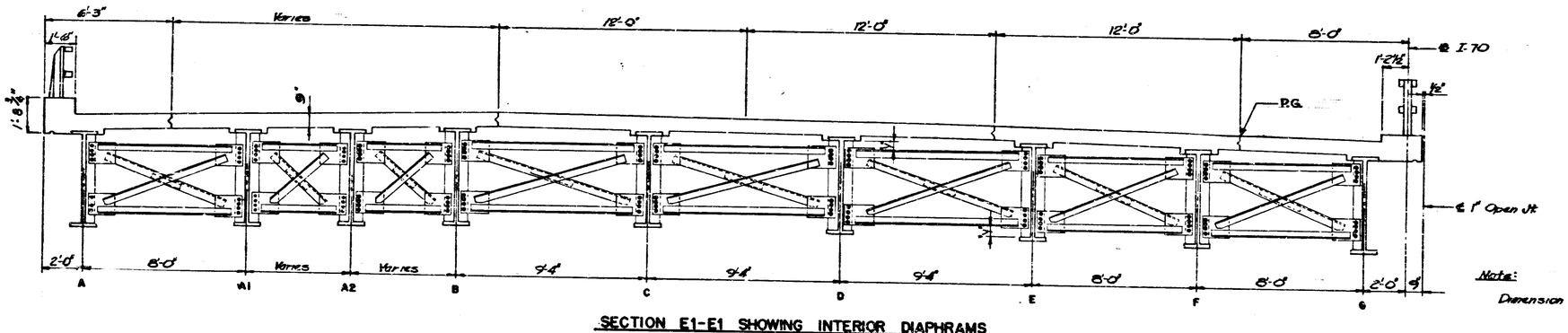
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
PUB. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(88)77	1970	75	118



Note : Dimension "y" is equal (typ.)

SECTION Z-Z (W.B.L.) SHOWING INTERIOR DIAPHRAGMS



Note:
Dimension "y" is equal, (typ.)

SECTION E1-E1 SHOWING INTERIOR DIAPHRAMS (E.B.L. SIMILAR)

Reference Notes:
See Dwg. S51 for location of Section Z-Z.
See Dwg. S50 for location of Section E1-E1.
For Interior Diaphragm Connections see Dwg. S47.

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S61 OF S 87
PROJECT:- I-70-3(88)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

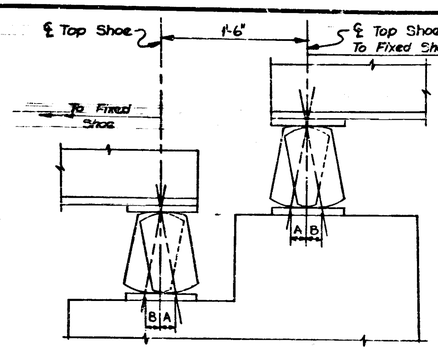
CHAS. W. COLES, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED AJT CK'D MHM
DRAWN EDM CK'D MHM
TRACED CK'D

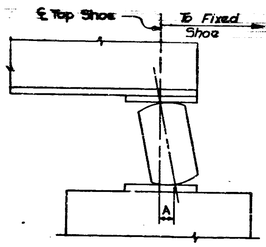
Rev. 12-1-70 SLAB THICKNESS

Rev. 12-1-70 E/C; CMK. 12-10-70 TCC

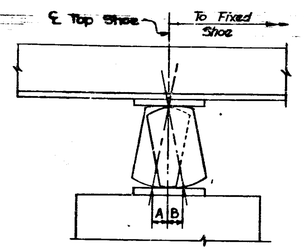
BRIDGES OVER 20' SPAN					
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)77	1970	76	118



Bent No. 29 (℄ GIRDER SECTION)



Bent No. 33



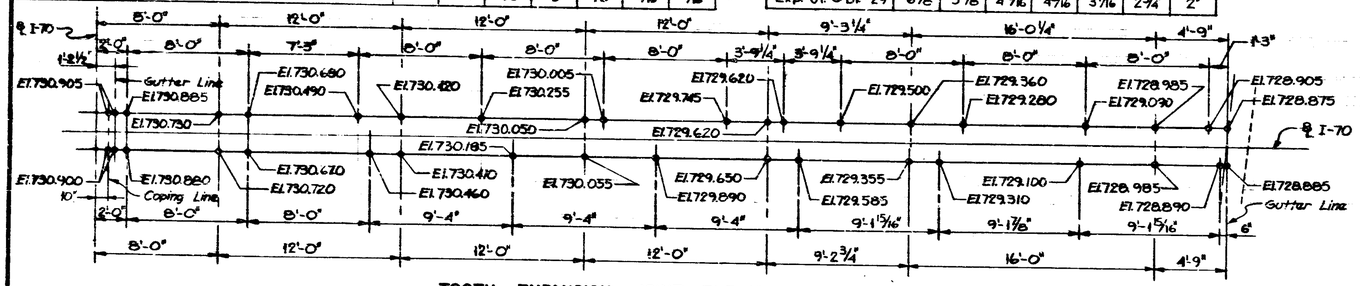
Bent Nos. 28, 30 & 31

Bent No. 29 (ROLLED BM. SECTION)

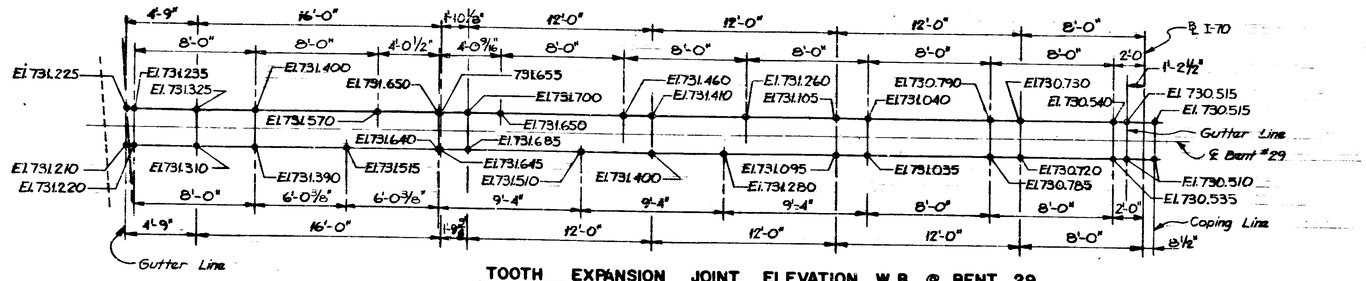
Temperature	Dim. "A" 0°	20°	40°	60°	Dim. "B" 80°	100°	120°
From ℄ Fixed Shoe @ Bt.# 27 to ℄ Exp. ℄ @ Bt.#28	7/16"	5/16"	1/8"	0"	1/8"	5/16"	7/16"
" " " " " " " " " " Bt.# 29	7/16"	5/16"	5/16"	0"	5/16"	9/16"	7/16"
From ℄ Fixed Shoe @ Bt.#32 to ℄ Exp. ℄ @ Bt.# 29	1 5/16"	7/8"	7/16"	0"	7/16"	7/8"	1 5/16"
" " " " " " " " " " Bt.#30	7/16"	5/16"	5/16"	0"	5/16"	9/16"	7/16"
" " " " " " " " " " Bt.# 31	7/16"	5/16"	1/8"	0"	1/8"	5/16"	7/16"

Temperature	Dimension "A" 0°	20°	40°	60°	80°	100°	120°
From ℄ Fixed Shoe @ Bt. #32 to ℄ Exp. ℄ @ Bt.#33	3/4"	5/8"	9/16"	1/2"	7/16"	3/8"	1/4"

Temperature	Dimension "D" 0°	20°	40°	60°	80°	100°	120°
Exp. Jt. @ Bt.#29	6 3/8"	5 5/8"	4 15/16"	4 3/16"	3 7/16"	2 3/4"	2"



TOOTH EXPANSION JOINT ELEVATION E.B. @ BENT 29



TOOTH EXPANSION JOINT ELEVATION W.B. @ BENT 29

DESIGNED AJT CK'D MHM
DRAWN WGH CK'D MHM
TRACED CK'D

GENERAL PROCEDURE

1) After all the structural steel in Spans A-A, B-B and C-C has been erected, adjust the Superstructure longitudinally so that the Hinge @ Bent 26 is in a Vertical Position Regardless of Temperature.

2) With Spans A-A, B-B and C-C in the adjusted position called for in 1, weld the Bearing Pls of the Fixed Shoes @ Bent 27 to the Anchor Plates.

3) After the above adjustments are completed, erect all the Structural Steel in Spans D-D, E-E, F-F and G-G.

4) After all the steel in Spans D-D, E-E, F-F and G-G has been erected adjust the Structure longitudinally so that the distance between the Top Shoes at Bent 29 is 1'-6".

5) With the Superstructure in the adjusted position called for in 4, weld the Bearing Plates of the Fixed Shoes at Bent 32 to the Anchor Plates.

6) Adjust the Expansion Plate under each Expansion Shoe in accordance with dimension "A" or "B" in Table I or Table II for the prevailing temperature. Note that dimension "A" is always the distance from a Vertical Line through the center line of the Top Shoes to the center line of the Expansion Plate, in a direction away from the Fixed Shoe. Weld the Expansion Plate to the Anchor Plate.

7) Set the Toothed Expansion Joints @ Bent 26 and Bent 29 and adjust them to the elevation shown on Dwg. 576 Bridge File I-70-77-2420 Part B and Dwg. 562 Bridge File I-70-77-2386 using double nuts on the Anchor Rods.

8) Adjust the Toothed Exp. Joints transversely so that opening "A" between teeth are equal and longitudinally so that opening "D" correspond to the values in Table III for the prevailing temperature.

9) Screed elevations shall be determined by adding the concrete dead load deflections to the required final concrete elevations at all screed points. Take elevations at all screed points on top of beam adjacent to screed point. Subract these elevations from the elevation corrected for deflection and use the resulting dimension as the height for setting the screed or coping from above that point. This dimension remains constant regardless of how much or in what order the concrete is poured. Do not set screed or coping forms by leveling. Screed elevation will be furnished on request.

10) No concrete in the floor is to be poured until the above operations are complete.

Note: See Drwg. S-84 & S-85 for Plan of Screed Point Locations.

SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

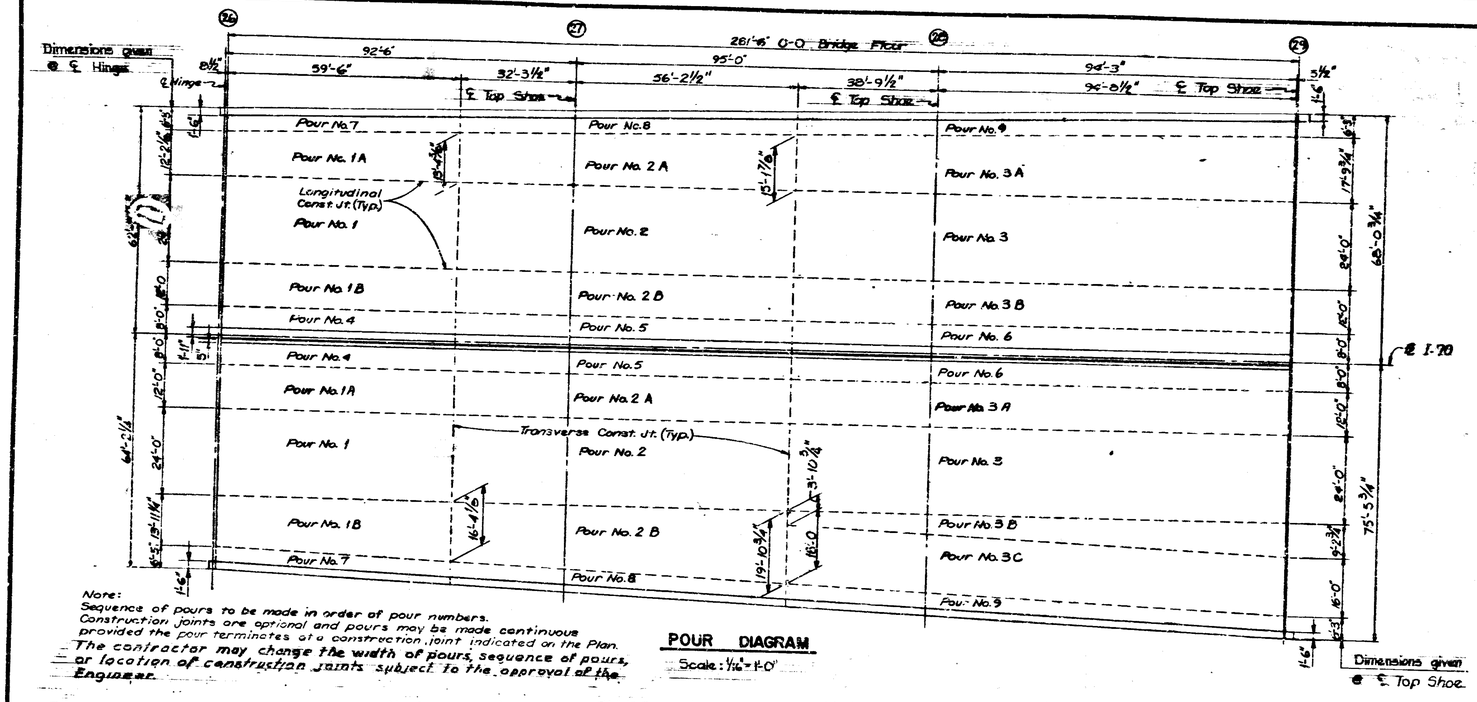
SCALE:- None JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING: S62 OF S87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



Note:
Sequence of pours to be made in order of pour numbers.
Construction joints are optional and pours may be made continuous provided the pour terminates at a construction joint indicated on the Plan.
The contractor may change the width of pours, sequence of pours, or location of construction joints subject to the approval of the Engineer.

POUR DIAGRAM
Scale: 1/16" = 1'-0"

BRIDGES OVER 20' SPAN

FED. ROAD SERIES NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(63)77	1970	77	118

DESIGNED AJY C'K'D MHM
DRAWN DRM C'K'D M.H.M.
TRACED C'K'D

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

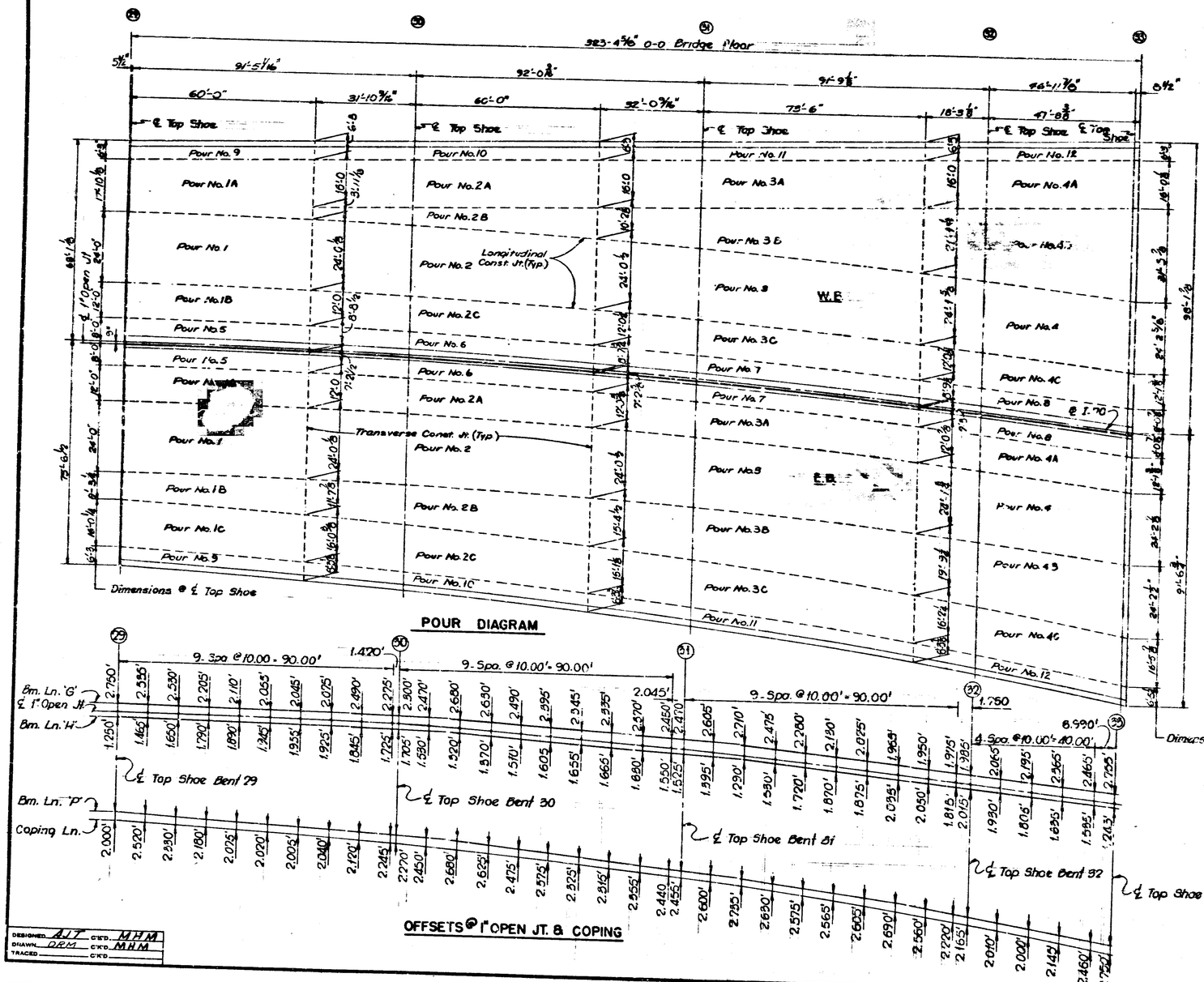
SCALE:- NOTED
SUBMITTED FOR APPROVAL:- JULY 3, 1969

DRAWING:- 363 OF 587
PROJECT:- I-70-3(63)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-7386

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
DIST. & CO. SEC. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(69)77	1970	78	118



POUR DIAGRAM

OFFSETS @ 1" OPEN JT. & COPING

Note:
Sequence of pours to be made in order of pour numbers.
Construction joints are optional and pours may be made continuous provided the pour terminates at a construction joint indicated on the plan.
The contractor may change the width of pours, sequence of pours, or location of construction joints subject to the approval of the Engineer

SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:-

JULY 9, 1969

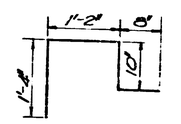
SUBMITTED FOR APPROVAL:

DESIGNED AJT C'KD. MHM
DRAWN DRM C'KD. MHM
TRACED C'KD.

DRAWING:- S44 OF S87
PROJECT:- I-70-3(69)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2886

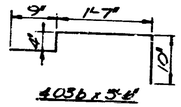
CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	JHS	SHEET NO.	TOTAL SHEETS	FILE

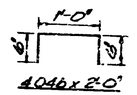


401b x 4'-0"

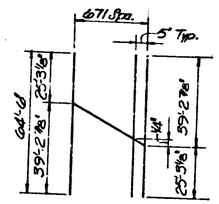
402b x 2'-0"



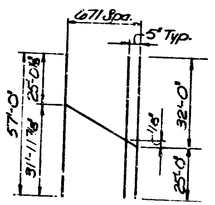
403b x 3'-8"



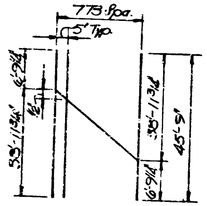
404b x 2'-0"



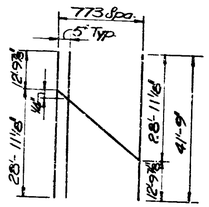
GROUP A
672 #5 x 64'-6"
1 Bar Cuts 2



GROUP B
672 #5 x 57'-0"
1 Bar Cuts 2



GROUP C
774 #5 x 45'-9"
1 Bar Cuts 2



GROUP D
774 #5 x 41'-9"
1 Bar Cuts 2

BILL OF MATERIAL
SPANS AA, BB, CC.
REINFORCING BARS

WEST BOUND				EAST BOUND			
MARK OR SIZE	NUMBER	LENGTH	WEIGHT	MARK OR SIZE	NUMBER	LENGTH	WEIGHT
601b	8	*	44#	601b	4	*	22#
602b	20	*	135#	602b	10	*	67#
Total Weight #6 Bars			179#	Total Weight #6 Bars			89#
#5	672	57'-0"		#5	672	64'-6"	
#5	1344	40'-0"		#5	1344	40'-0"	
#5	720	37'-0"		#5	696	37'-0"	
#5	357	34'-6"		#5	462	34'-6"	
Total Weight #5			136,604#	Total Weight #5			144,763#
401b	307	4'-0					
403b	298	3'-6		*401b	307	4'-0	
404b	6	2'-0		*402b	273	2'-0	
Total Weight #4			1525#	Total Weight #4			1,182#
#3	86	282'-3					
#3	122	94'-0		#3	86	282'-3	
				#3	156	94'-0	
Total Weight #3 Bars			13439#	Total Weight #3			14,641#
Total Weight Reinf. Bars			151795#	Total Weight Reinf. Bars			160615#

CONCRETE

WEST BOUND				EAST BOUND			
POUR NUMBER	AMOUNT	POUR NUMBER	AMOUNT	POUR NUMBER	AMOUNT	POUR NUMBER	AMOUNT
Pour #1	40.5 c.y.	Pour #3B	46.1 c.y.	Pour #1	40.6 c.y.	Pour #3B	25.1 c.y.
Pour #1A	22.0 c.y.	Pour #4	18.7 c.y.	Pour #1A	20.7 c.y.	Pour #3C	60.8 c.y.
Pour #1B	20.7 c.y.	Pour #5	24.2 c.y.	Pour #1B	26.5 c.y.	Pour #4	13.0 c.y.
Pour #2	59.4 c.y.	Pour #6	35.0 c.y.	Pour #2	59.5 c.y.	Pour #5	19.2 c.y.
Pour #2A	36.3 c.y.	Pour #7	13.9 c.y.	Pour #2A	30.6 c.y.	Pour #6	29.0 c.y.
Pour #2B	30.4 c.y.	Pour #8	20.6 c.y.	Pour #2B	46.0 c.y.	Pour #7	13.7 c.y.
Pour #3	90.0 c.y.	Pour #9	31.2 c.y.	Pour #3	90.1 c.y.	Pour #8	20.2 c.y.
Pour #3A	63.4 c.y.			Pour #3A	46.2 c.y.	Pour #9	20.2 c.y.
Total Class A in Superstructure			549.4 c.y.	Total Class A in Superstr.			561.2 c.y.

MISCELLANEOUS

WEST BOUND		EAST BOUND	
ITEM	AMOUNT	ITEM	AMOUNT
Bridge Railing Type 7 or E	282 Lin. Ft.	Bridge Railing Type 5 or C	282 Lin. Ft.
Bridge Railing Type 5 or C	282 Lin. Ft.	2" ϕ Steel Conduit (Includes 2½" ϕ Sleeves)	282 Lin. Ft.
2" ϕ Steel Conduit (Includes 2½" ϕ Sleeves)	282 Lin. Ft.		
*AR22	8 each	*AR22	4 each

* See Bridge Standards REA for Size and Location of AR22 and 601b and 602b.
See Bridge Standard C, for Reinf. Bar Notes

BILL OF MATERIAL
SPANS DD, EE, FF, GG
REINFORCING BARS

WEST BOUND				EAST BOUND			
MARK OR SIZE	NUMBER	LENGTH	WEIGHT	MARK OR SIZE	NUMBER	LENGTH	WEIGHT
601b	4	*	22#	601b	8	*	44#
602b	10	*	67#	602b	20	*	135#
Total Weight #6			89#	Total Weight #6			179#
#5	1548	26'-0		#5	1548	26'-0	
#5	218	25'-0		#5	238	25'-0	
#5	744	45'-9"		#5	744	41'-9"	
#5	1548	40'-0"		#5	1548	40'-0"	
#5	185	39'-0"		#5	375	39'-3"	
#5	729	38'-0"		#5	486	38'-0"	
#5	171	33'-0"		#5	141	33'-0"	
#5	288	32'-9"		#5	327	32'-9"	
Total Weight #5			199,785#	Total Weight #5			195,801#
401b	362	4'-0		401b	361	4'-0	
403b	336	3'-6		402b	319	2'-0	
404b	3	2'-0		Total Weight #4			1,375#
Total Weight #4			1,771#				
#3	81	322'-6					
#3	34	183'-6		#3	50	833'-0	
#3	63	92'-0		#3	80	183'-6	
#3	50	91'-9		#3	99	139'-3	
#3	47	91'-6		#3	52	92'-0	
#3	110	47'-6		#3	22	91'-9	
				#3	30	47'-6	
Total Weight #3			19,654#	Total Weight #3			19,853#
Total Weight Reinf Bars			221,290#	Total Weight Reinf. Bars			217,205#

CONCRETE

WEST BOUND				EAST BOUND			
POUR NUMBER	AMOUNT	POUR NUMBER	AMOUNT	POUR NUMBER	AMOUNT	POUR NUMBER	AMOUNT
Pour #1	41.7 c.y.	Pour #4A	30.1 c.y.	Pour #1	41.8 c.y.	Pour #4	45.7 c.y.
Pour #1A	33.1 c.y.	Pour #4B	50.1 c.y.	Pour #1A	21.1 c.y.	Pour #4A	23.1 c.y.
Pour #1B	21.1 c.y.	Pour #4C	23.1 c.y.	Pour #1B	18.3 c.y.	Pour #4B	41.7 c.y.
Pour #2	62.5 c.y.	Pour #5	16.8 c.y.	Pour #1C	37.4 c.y.	Pour #4C	30.8 c.y.
Pour #2A	42.5 c.y.	Pour #6	25.5 c.y.	Pour #2	62.6 c.y.	Pour #5	12.4 c.y.
Pour #2B	18.2 c.y.	Pour #7	29.2 c.y.	Pour #2A	31.7 c.y.	Pour #6	18.8 c.y.
Pour #2C	31.7 c.y.	Pour #8	18.5 c.y.	Pour #2B	35.5 c.y.	Pour #7	21.7 c.y.
Pour #3	72.1 c.y.	Pour #9	13.8 c.y.	Pour #2C	41.8 c.y.	Pour #8	13.7 c.y.
Pour #3A	47.9 c.y.	Pour #10	21.0 c.y.	Pour #3	72.2 c.y.	Pour #9	14.5 c.y.
Pour #3B	47.5 c.y.	Pour #11	24.1 c.y.	Pour #3A	36.5 c.y.	Pour #10	22.2 c.y.
Pour #4	45.6 c.y.	Pour #12	15.1 c.y.	Pour #3B	39.2 c.y.	Pour #11	25.5 c.y.
Total Class "A" in Superstr.			767.6 c.y.	Pour #3C	48.4 c.y.	Pour #12	16.0 c.y.
				Total Class "A" in Superstr.			776.6 c.y.

MISCELLANEOUS

WEST BOUND		EAST BOUND	
ITEM	AMOUNT	ITEM	AMOUNT
Bridge Railing Type 7 or E	325 Lin. Ft.	Bridge Railing Type 5 or C	329 Lin. Ft.
Bridge Railing Type 5 or C	325 Lin. Ft.	2" ϕ Steel Conduit (Includes 2½" ϕ Sleeve)	329 Lin. Ft.
2" ϕ Steel Conduit (Includes 2½" ϕ Sleeves)	325 Lin. Ft.		
* AR22	4 each	* AR22	8 each

BRIDGES OVER 20' SPAN					
PUB. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)177	1970	79	118

Rev 12-1-70 EJC; CHK. 12-10-70

DESIGNED A.J.T. CK'D M.H.M.
DRAWN F.D.M. CK'D M.H.M.
TRACED CK'D

Rev 12-1-70 Bill of Mat'ls

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE JULY 3, 1969

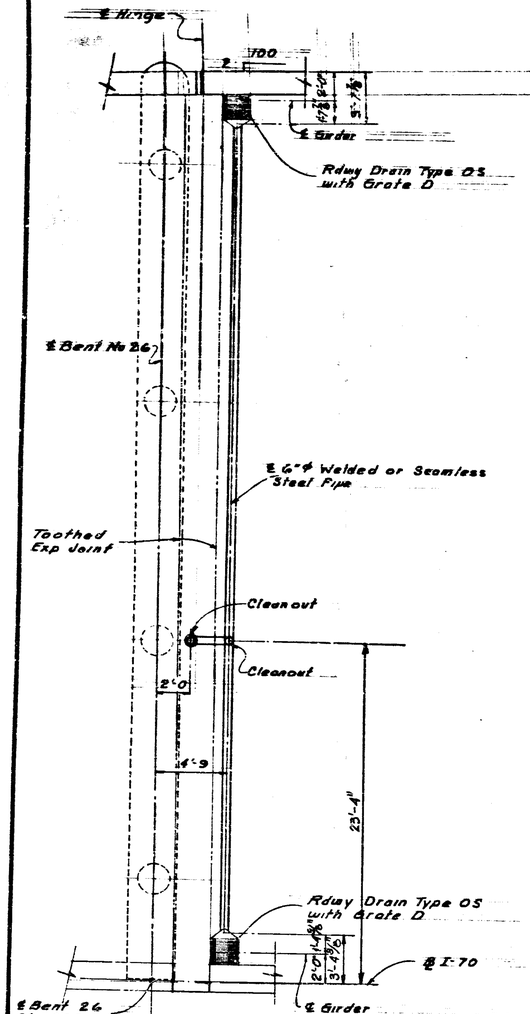
SUBMITTED FOR APPROVAL:

DRAWING:- 565 OF 587
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

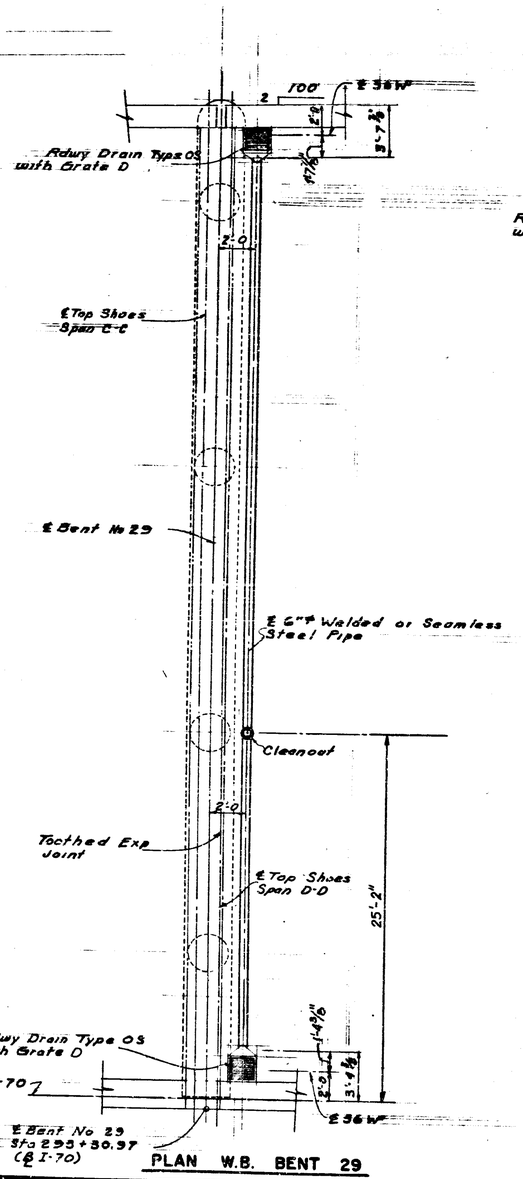
CHAS. W. COLE 326 REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

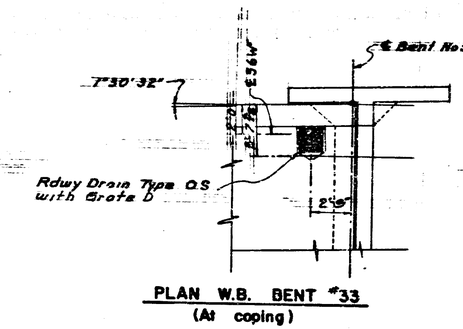
BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (69)77	1970	80	115



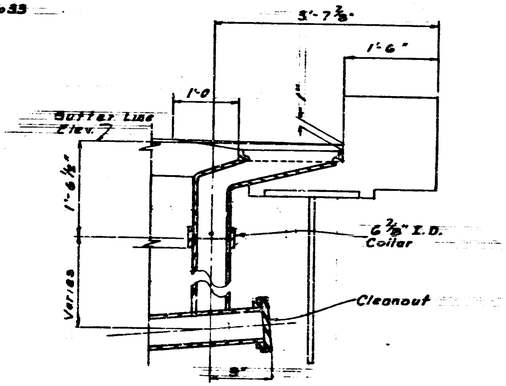
PLAN W.B. BENT 26



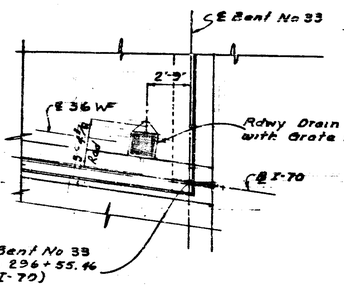
PLAN W.B. BENT 29



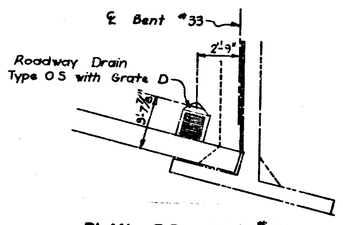
PLAN W.B. BENT #33
(At coping)



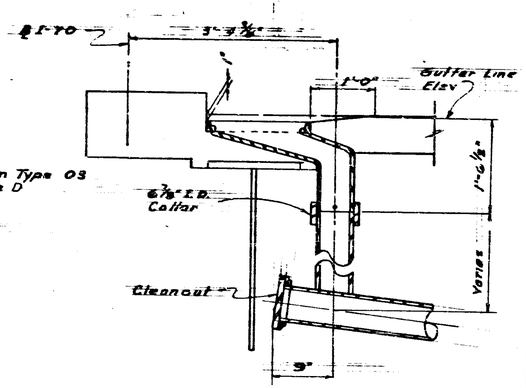
ELEVATION OF DRAIN ℄ CURB



PLAN W.B. BENT #33
℄ Median



PLAN E.B. BENT #33
℄ Coping



ELEVATION OF DRAIN ℄ MEDIAN

Note:
See Dwg. S68 for Elevation of W.B. Bent #29 & Plan ℄ Bent #33 Showing Special Type "A" side ditch.
See Dwg. S69 for Typ. Collar Detail.

SUPERSTRUCTURE DRAINAGE DETAILS
INDIANA STATE HIGHWAY COMMISSION

DESIGNED ____ C'K'D ____
DRAWN AJT C'K'D GEL
TRACED ____ C'K'D ____

SCALE:- None

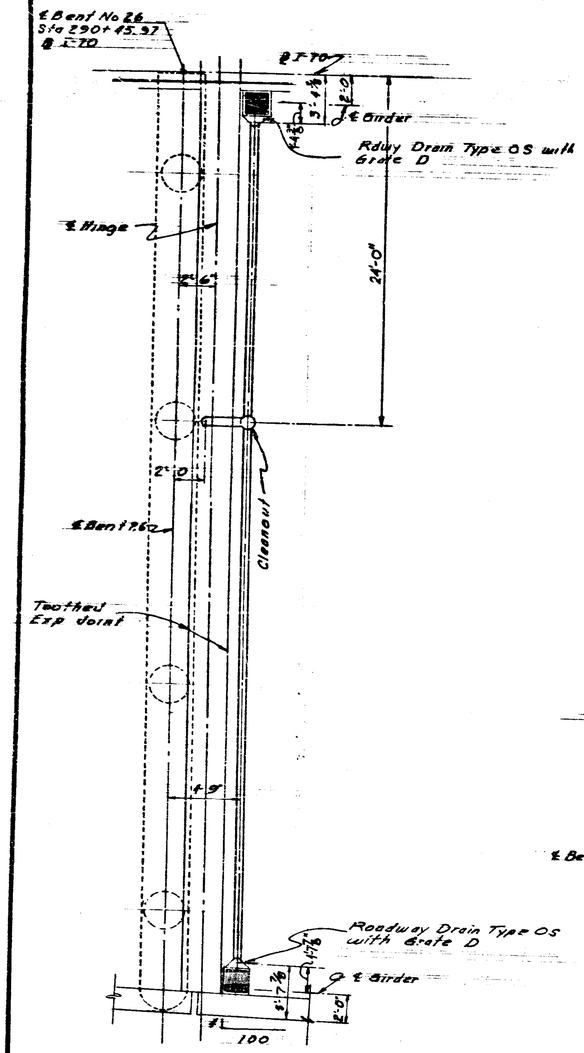
JULY 3, 1969

SUBMITTED FOR APPROVAL:- Robert Schaff

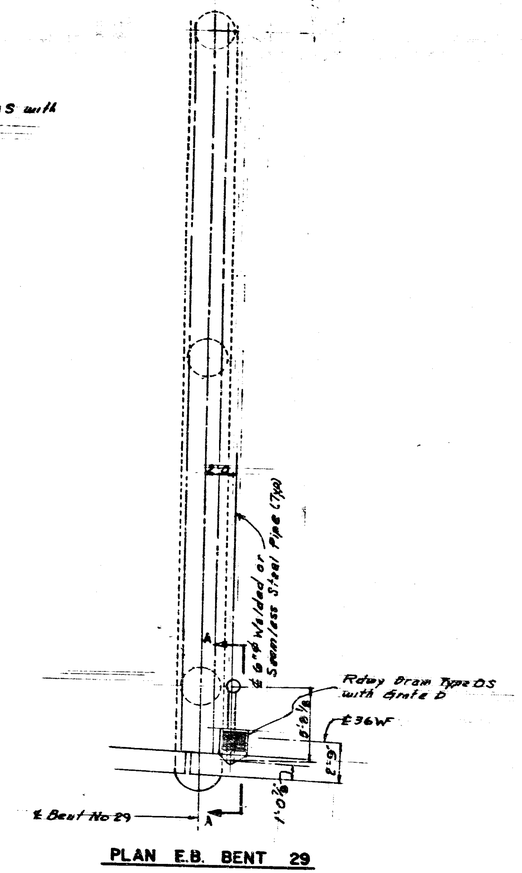
DRAWING:- S66 OF S67
PROJECT:- I-70-3(69)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE, JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

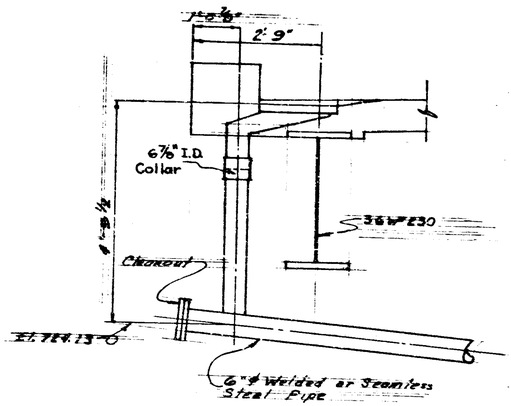
PROJECT NO.	LINE	BRIDGE NO.	STATE SHEET NO.	FILE



PLAN E.B. BENT 26



PLAN E.B. BENT 29



SECTION A-A

BRIDGES OVER 20' SPAN					
THIS ROAD SYSTEM NO.	STATE	PROJECT NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
4	IND.	I-70-3 (66) 77	1970	61	118

Notes:
See Dwg. S15 & S14 General Plan.
See Dwg. S66 for Elev. of Drain @ Curb.
See Dwg. S70 for Elev. @ E.B. Bent #26 & E.B. Bent 29 & Bill of Materails.

SUPERSTRUCTURE DRAINAGE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL: Charles Coldiff

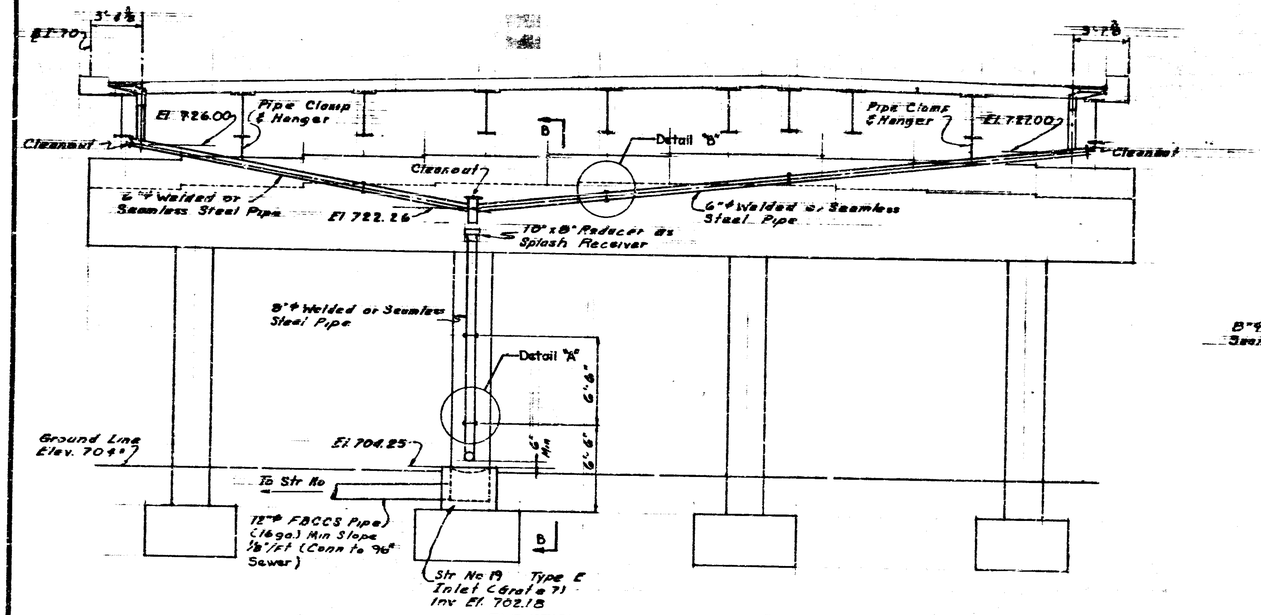
DRAWING:- S67 OF 567
PROJECT:- I-70-3(66)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLDIFF REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

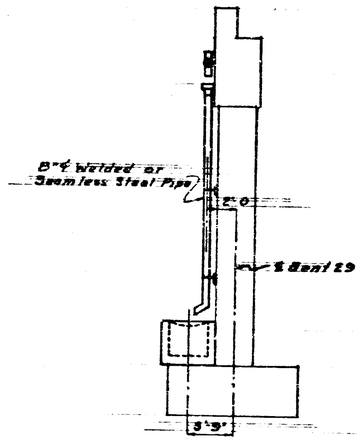
DESIGNED		C'K'D	
DRAWN	AJI	C'K'D	CEL
TRACED		C'K'D	

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

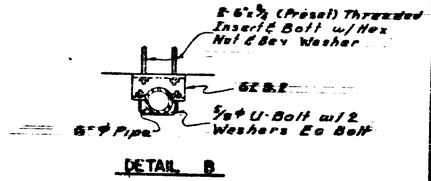
BRIDGES OVER 20' SPAN					
FED. ROAD DES. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (88)77	1970	82	118



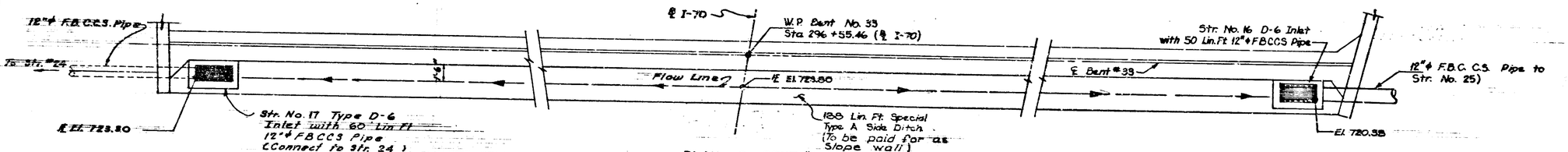
ELEVATION OF W.B. BENT #29



SECTION B-B



DETAIL B



PLAN @ BENT #33

Notes:
See Dwg. 569 for Detail A.
See Dwg. 570 for Bill of Material & Typ. Conn. @ Sewer

SUPERSTRUCTURE DRAINAGE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None. JULY 3, 1969

SUBMITTED FOR APPROVAL:

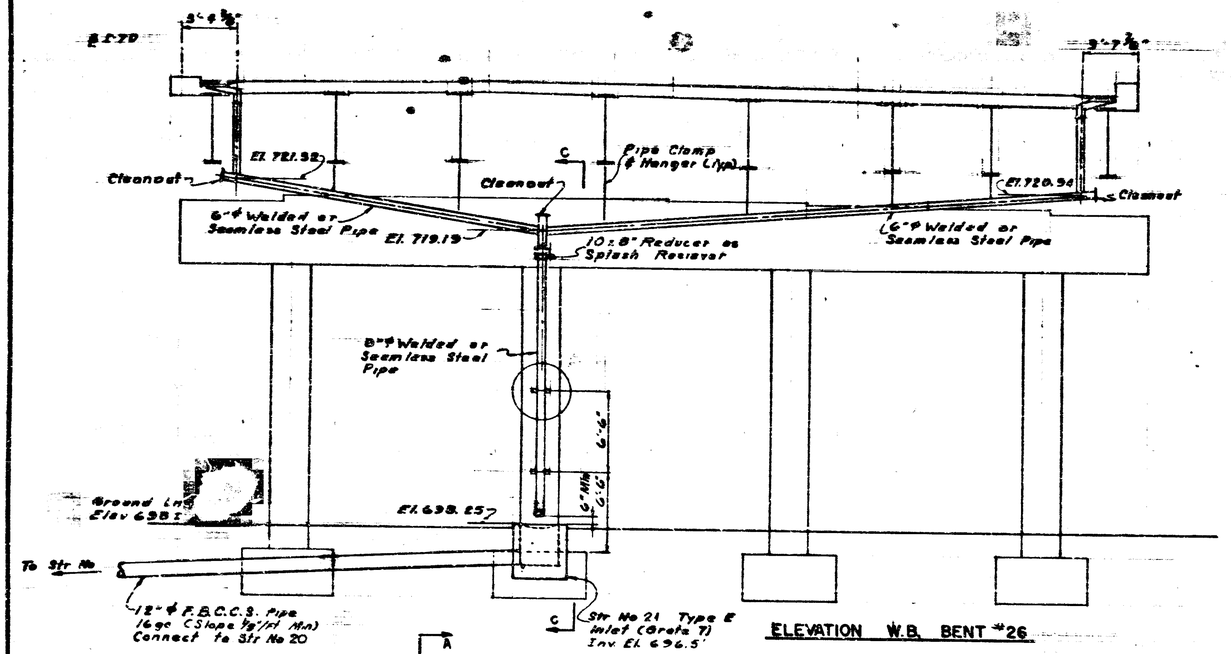
DRAWING:- 568 OF 3 67
PROJECT:- I-70-3(88)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3633 STATE OF INDIANA PROFESSIONAL ENGINEER

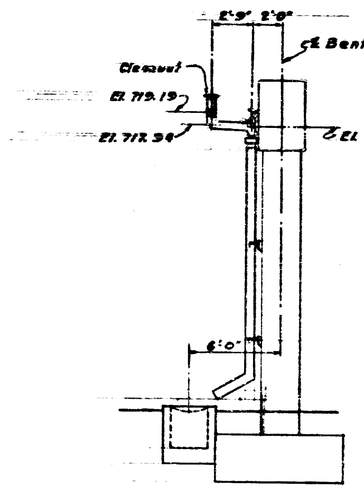
DESIGNED ____ CHKD. ____
DRAWN A.J.T. CHKD. C.F.L.
TRACED ____ CHKD. ____

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

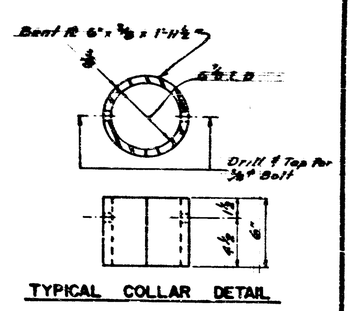
BRIDGES OVER 20' SPAN					
FED. ROAD DES. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (88)177	1970	88	118



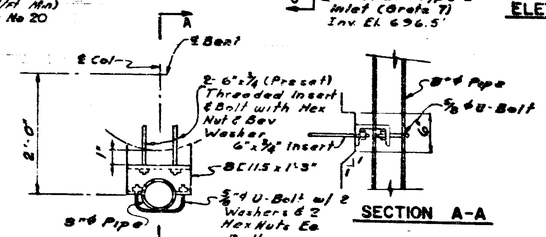
ELEVATION W.B. BENT #26



SECTION C-C

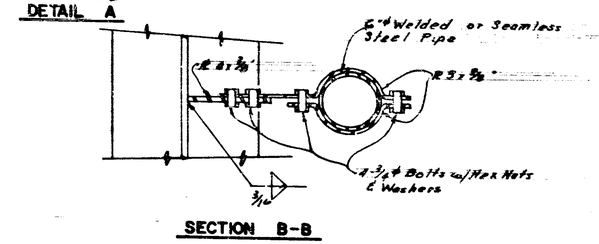


TYPICAL COLLAR DETAIL

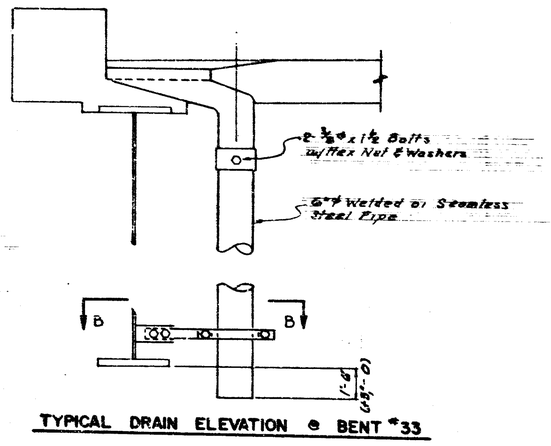


DETAIL A

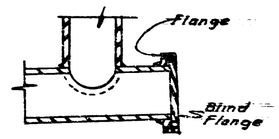
SECTION A-A



SECTION B-B



TYPICAL DRAIN ELEVATION @ BENT #33



TYPICAL CLEANOUT DETAIL

Note:
See Dwg. 586 for Bill of Material.

SUPERSTRUCTURE DRAINAGE DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- None. JULY 3, 1969

SUBMITTED FOR APPROVAL: Chas. W. Cole

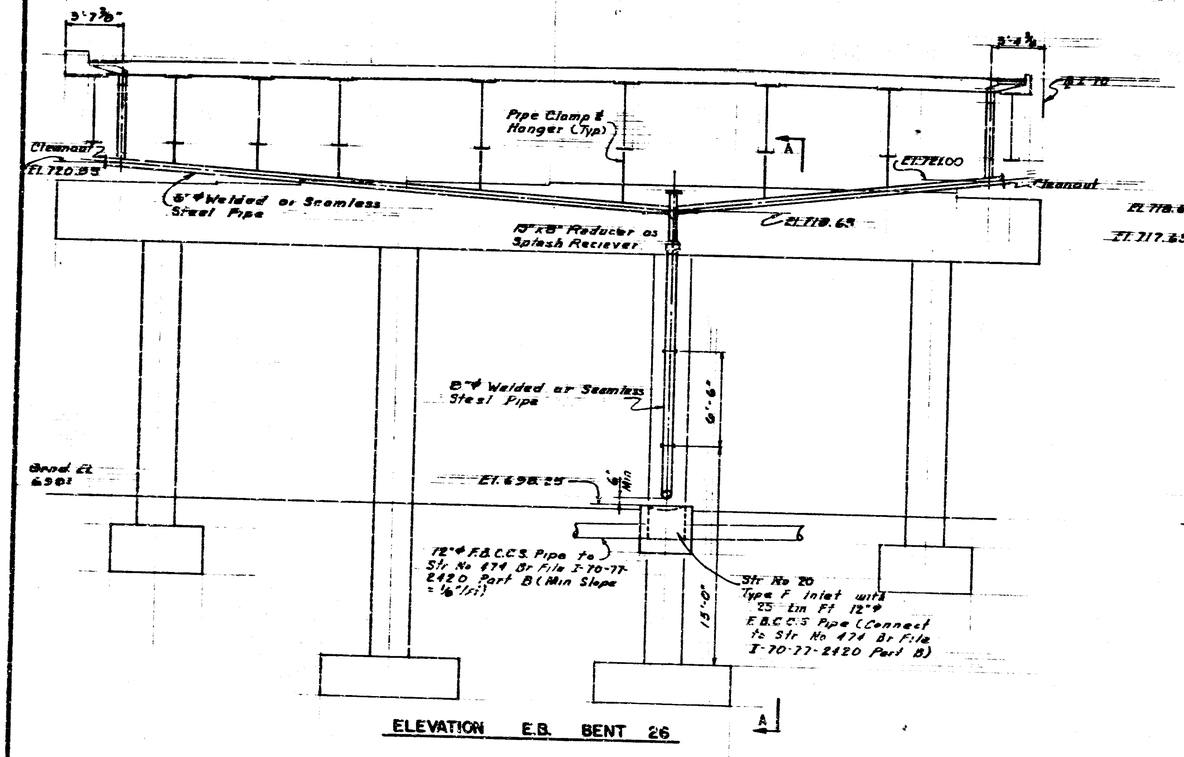
DRAWING 349 OF 587
PROJECT:- I-70-3(88)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 3653 STATE OF INDIANA PROFESSIONAL ENGINEER

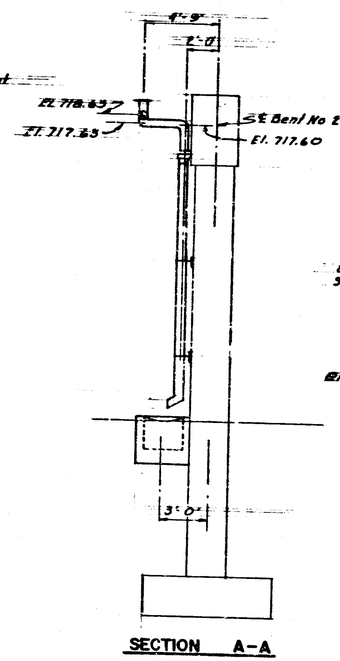
DESIGNED ____ CK'D ____
DRAWN A.H. CK'D CEL
TRACED ____ CK'D ____

PROJECT NO.	LOC	SHEET NO.	TOTAL SHEETS	FILE

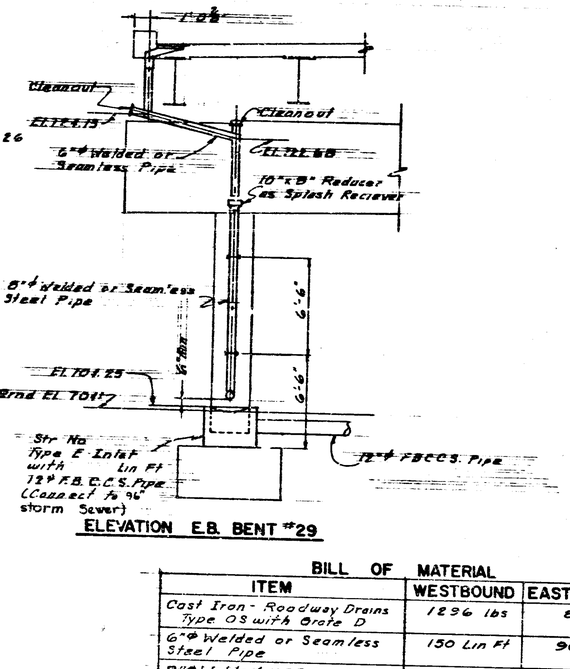
BRIDGES OVER 20' SPAN					
PUB. ROAD SER. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (66)77	1969	87	118



ELEVATION E.B. BENT 26



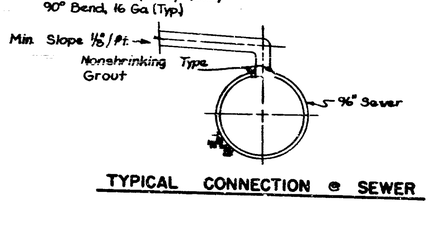
SECTION A-A



ELEVATION E.B. BENT #29

BILL OF MATERIAL

ITEM	WESTBOUND	EASTBOUND
Cast Iron - Roadway Drains Type OS with Grate D	1296 lbs	864 lbs
6"ϕ Welded or Seamless Steel Pipe	150 Lin Ft	90 Lin Ft
8"ϕ Welded or Seamless Steel Pipe	40 Lin Ft	35 Lin Ft



TYPICAL CONNECTION @ SEWER

DESIGNED ____ CK'D ____
DRAWN AJT CK'D CEL
TRACED ____ CK'D ____

SUPERSTRUCTURE DRAINAGE DETAILS

INDIANA STATE HIGHWAY COMMISSION

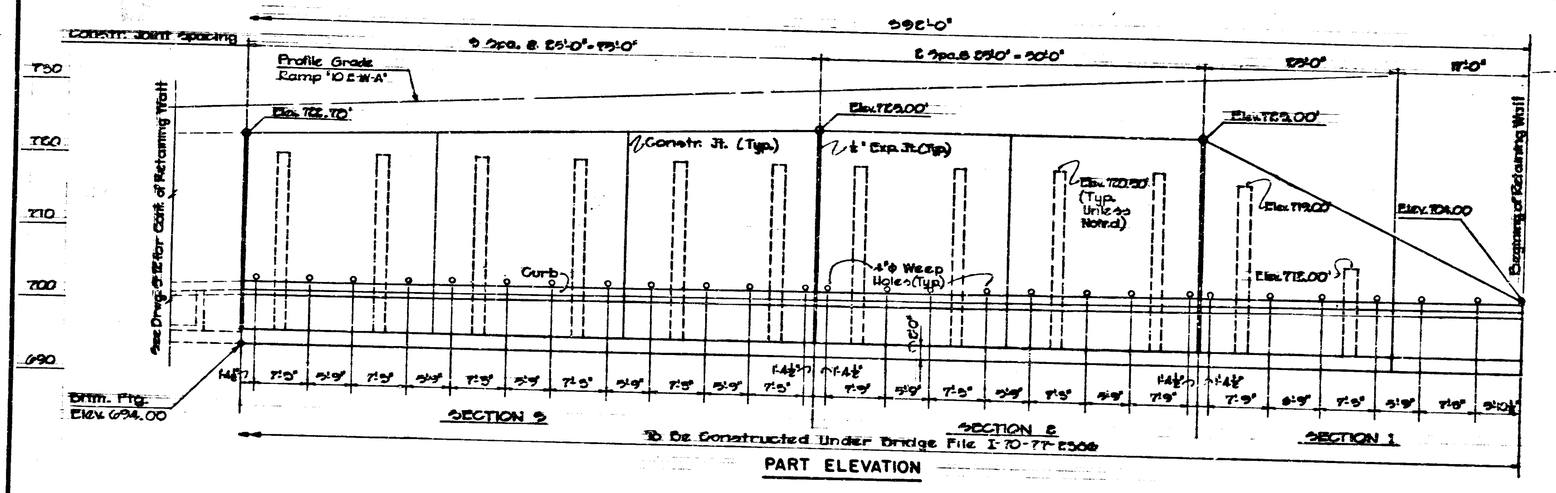
SCALE:- None. JULY 3, 1969

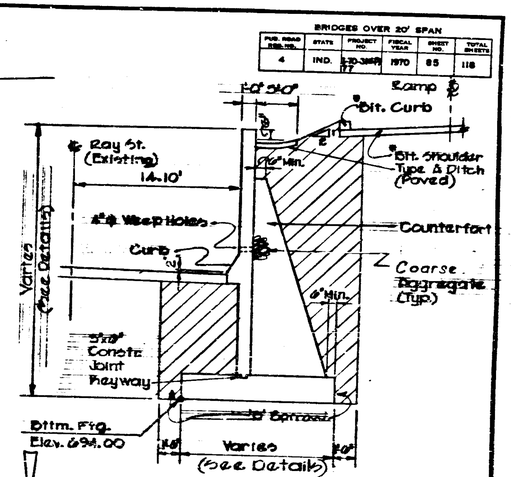
SUBMITTED FOR APPROVAL:- Thomas Rudolph

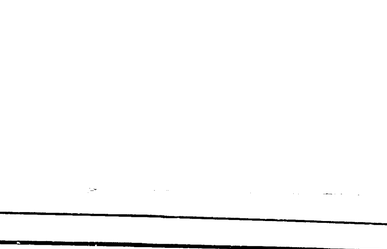
DRAWING:- 370 OF 567
PROJECT:- I-70-3(66)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

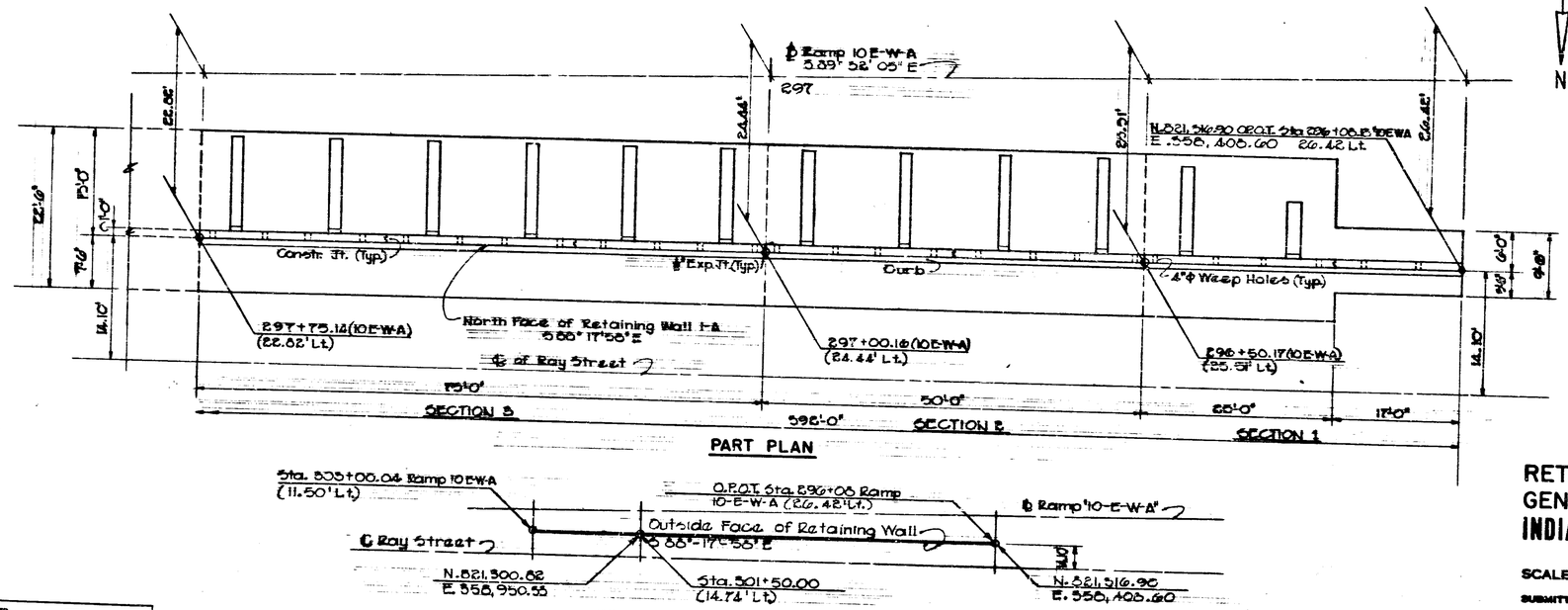
REGISTERED PROFESSIONAL ENGINEER No. 3633 STATE OF INDIANA

PROJECT NO.	LINE	SURVEY NO.	TOTAL SHEETS	FILE









Note:
See Drwg. S-14 for Gen. Plan, Br. File I-70-77-2386
See Drwg. S-15 for Gen. Notes, Br. File I-70-77-2386
See Sheet No. 4 Plan Sta. 290+45.97 to 305+00 (℄ I-70) Br. File I-70-77-2386.
See Sheet No. 7, Profile 10 E-W-A Sta. 295+98.08 to Sta. 307+56.81, Br. File I-70-77-2386.
Coarse Aggregate, bshing ea. Weep Hole Shall Be Indiana Size No. 1 in accordance with Section 903, Indiana State Highway Commission.

*Not Part of Bridge Contract.

RETAINING WALL I-A
GENERAL ARRANGEMENT
INDIANA STATE HIGHWAY COMMISSION

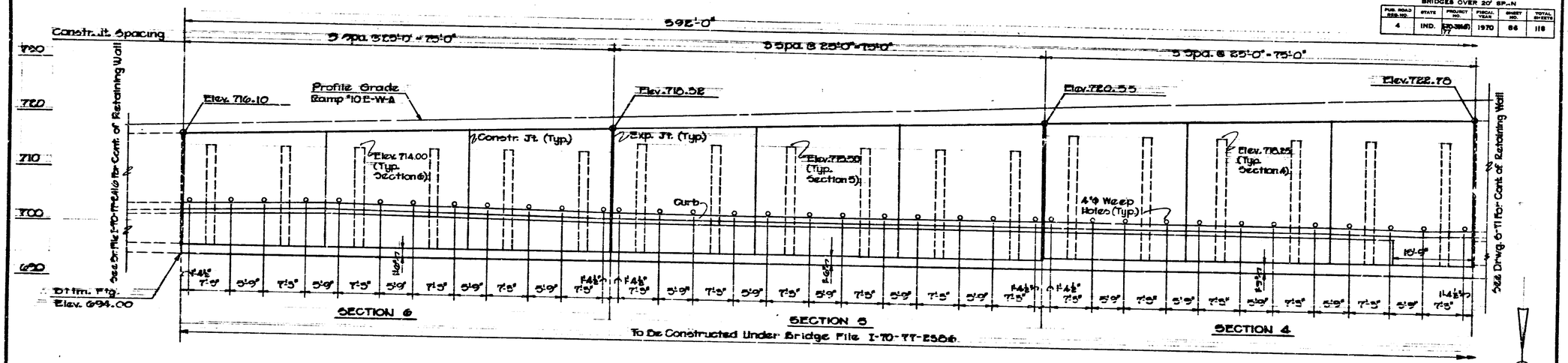
SCALE:- NONE
JULY 3 1969
SUBMITTED FOR APPROVAL:
DRAWING:- S-71 OF S-87
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED ____ C'K'D ____
DRAWN G.T.A. C'K'D VHJ
TRACED ____ C'K'D ____

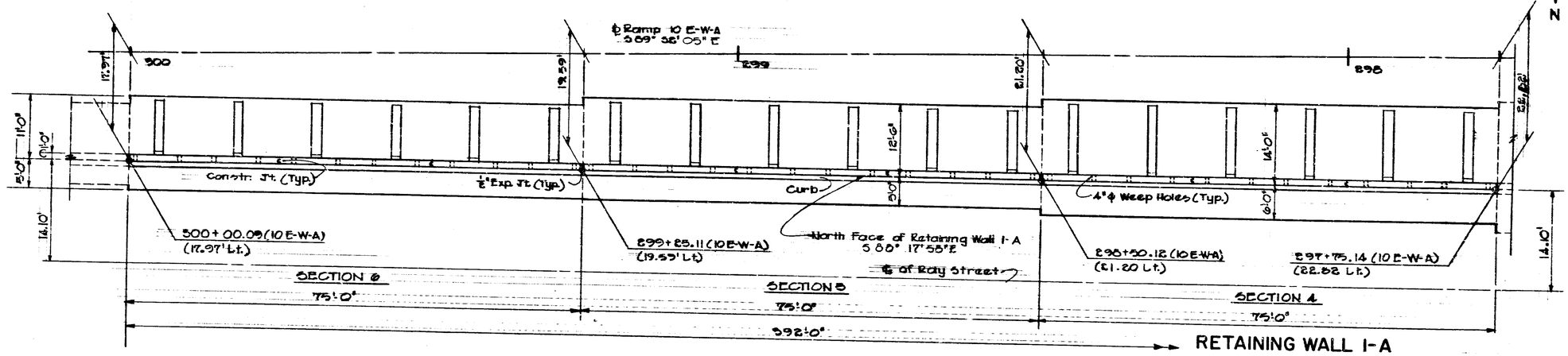
Rev 12-1-70 E.I.C. Chk. 12-10-70 TCC

Rev 12-1-70 "B" Borrow

BRIDGES OVER 20' SPAN					
PUB. ROAD RTE. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	[illegible]	1970	86	118



PART ELEVATION



PART PLAN

RETAINING WALL I-A
GENERAL ARRANGEMENT
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

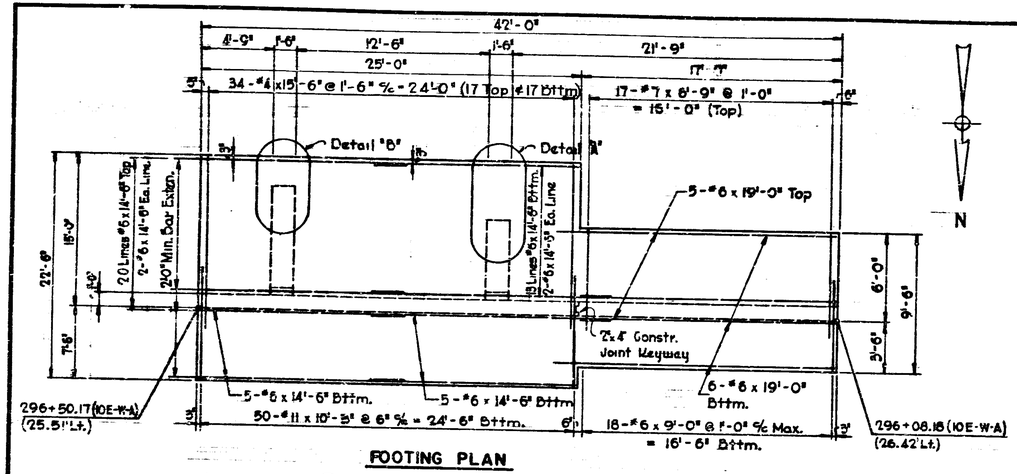
SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S-72 OF S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

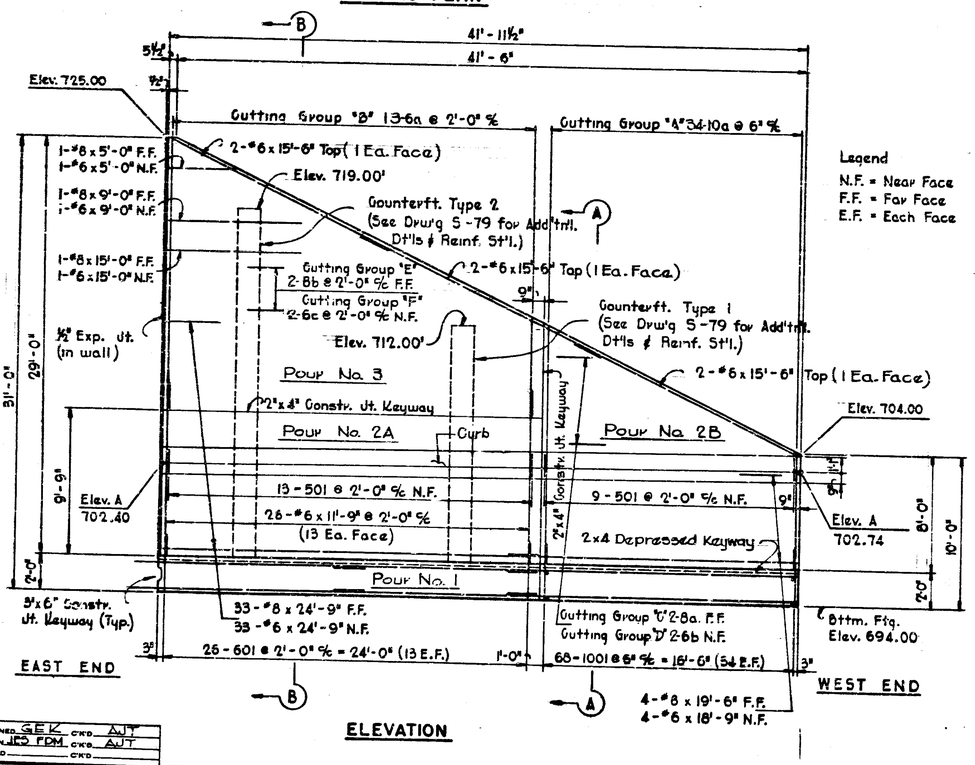
DESIGNED ____ C'K'D ____
DRAWN GJB C'K'D VHJ
TRACED ____ C'K'D ____

Rev 12-1-70

Rev 12-1-70

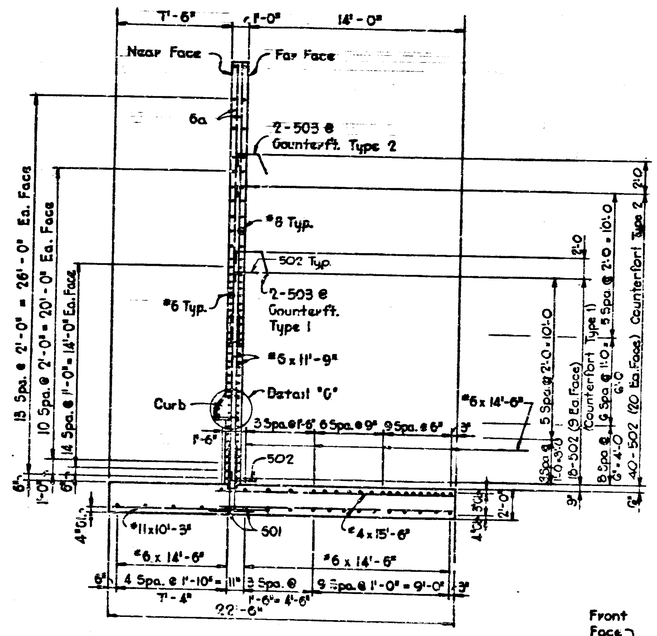


FOOTING PLAN



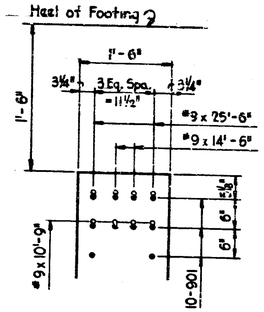
ELEVATION

Legend
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face



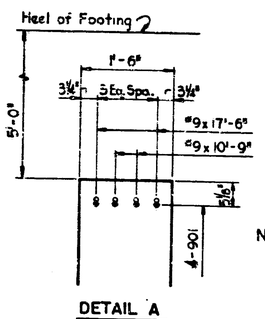
SECTION B-B

Max. Soil Pressure = 2.3 T.S.F.



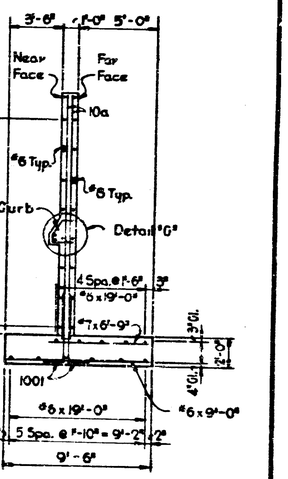
DETAIL B

Note: For Additional Details & Reinf. Steel Extending from Footing for Counterfort Type 2 See Drw'g. S-79

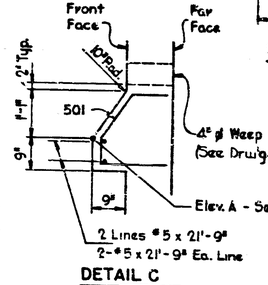


DETAIL A

Note: For Additional Details & Reinf. Steel Extending from Footing for Counterfort Type 1 See Drw'g. S-79



SECTION A-A



DETAIL C

Notes: See Drw'g. S-71 for Gen. Arrangemt. of Retaining Wall I-A
See Drw'g. S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g. S-79 for Counterfort Dt'ls.
See Drw'g. S-82 for Reinf. Bar Diagrams
See Drw'g. S-83 for Bill of Material

BRIDGES OVER 20' SPAN

FHWA ROAD SYSTEM NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)77	1970	87	118

RETAINING WALL I-A SECTION I DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

JULY 3, 1969

SUBMITTED FOR APPROVAL: Edward Cole

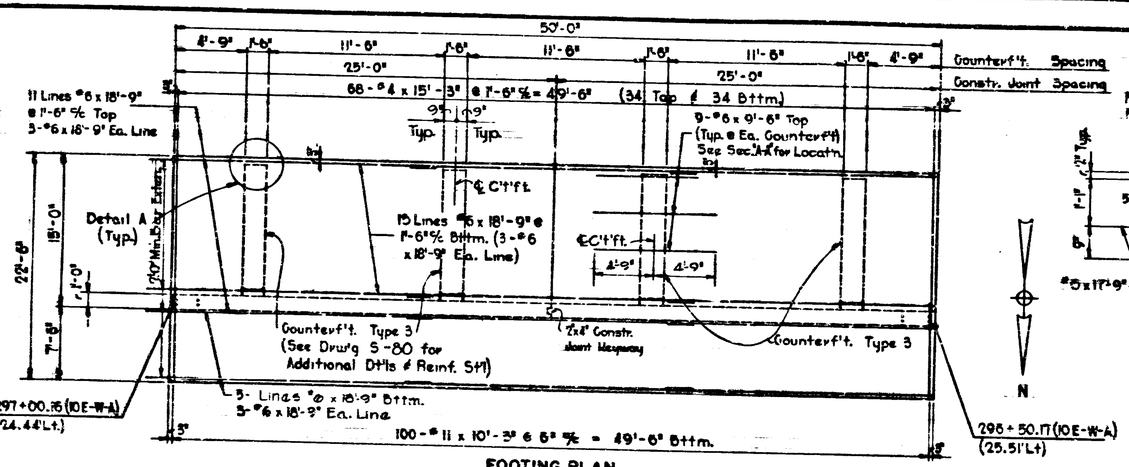
DRAWING:- S-73 OF S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED SEK CK'D AJT
DRAWN JES FDM CK'D AJT
TRACED CK'D

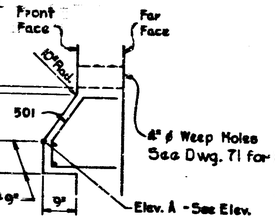
Rev 12-1-70

Rev 12-1-70

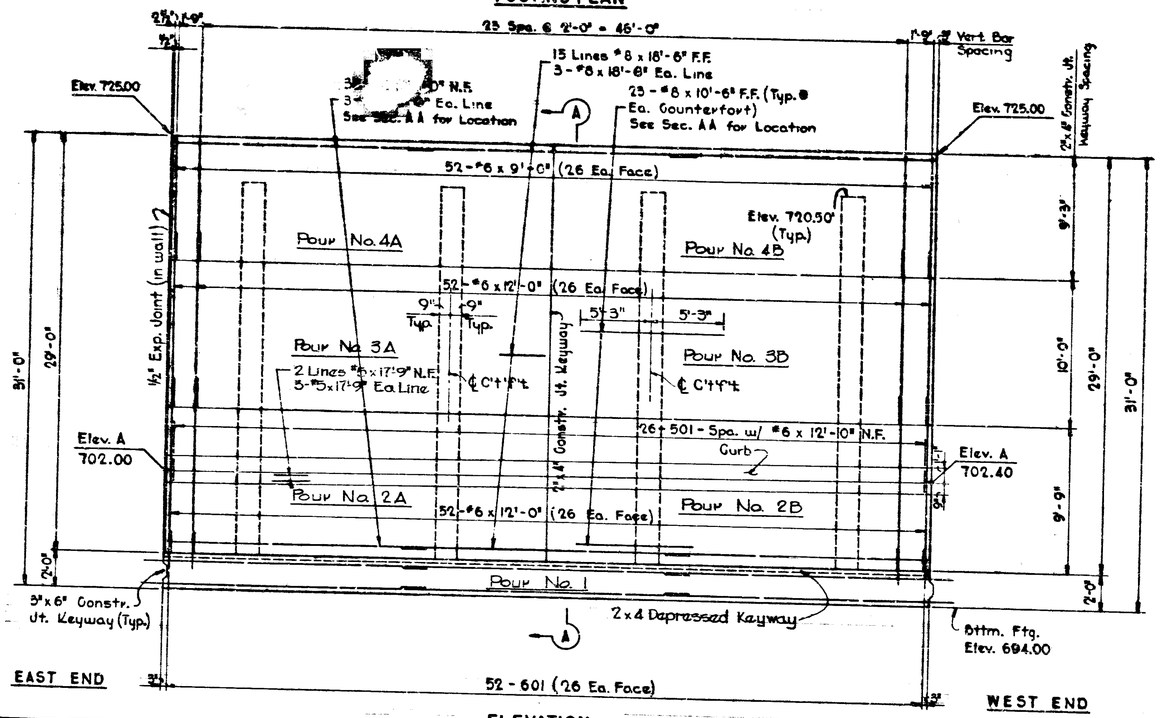
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



FOOTING PLAN



DETAIL C



ELEVATION

DESIGNED GEK CK'D AJT
DRAWN JES PDH CK'D AJT, VHJ
TRACED CK'D

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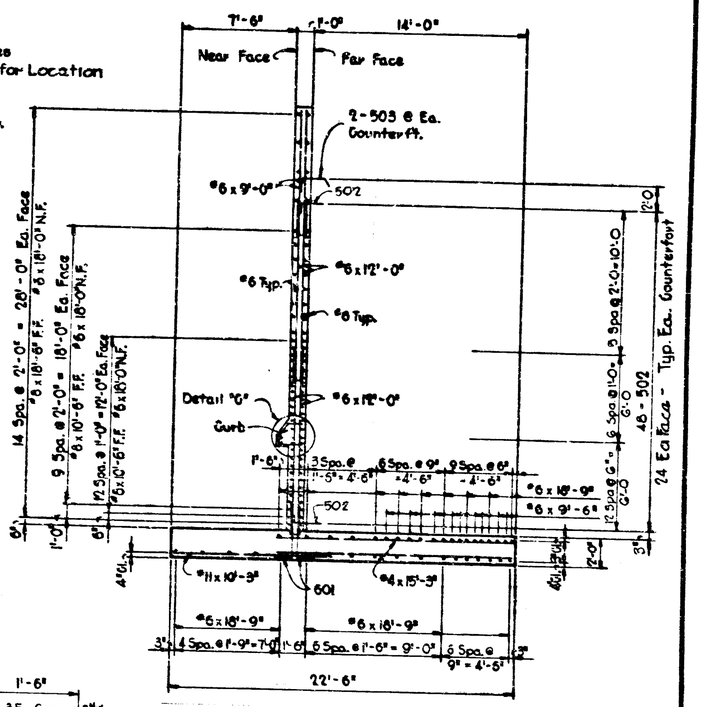
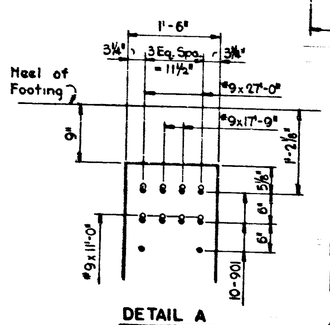


SECTION A-A

Max. Soil Pressure = 2.3 T.S.F.

Note:
See Drwg. S-71 for Gen. Arrangemt. of Retain'g. Wall I-A
See Drwg. S-14 for Gen. Plan Br. File I-70-77-2386
See Drwg. S-80 for Counterfort Dt'ls.
See Drwg. S-82 for Reinf. Bar Diagrams
See Drwg. S-83 for Bill of Material

Legend
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face



DETAIL A

Note: For Additional Details & Reinf. Steel Extending from Footing for Counterfort Type 3 See Drwg. S-80

BRIDGES OVER 20' SPAN

FED. ROAD SERIES NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	[illegible]	1970	88	118

RETAINING WALL I-A SECTION 2 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE
JULY 3, 1969
SUBMITTED FOR APPROVAL: [signature]
DRAWING:- S-74 OF S-37
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

CHAS. W. COLE JR. REGISTERED No. 5863 STATE OF INDIANA PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev 12-1-70

BRIDGES OVER 20' SPAN					
PUB. ROAD ADM. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	[illegible]	1970	89	118

Rev 12-1-70

FOOTING PLAN

ELEVATION

DETAIL A

SECTION A-A

Max Design Soil Pressure = 2.3 T.S.F.

Note:
See Drw'g. S-71 for Gen. Arrangem't. of Retain'g Wall I-A
See Drw'g. S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g. S-80 for Counterfort Dt'ls.
See Drw'g. S-82 for Reinf. Bar Diagrams
See Drw'g S-83 for Bill of Material
See Drwg S-74 for Det'l. "D"

Note: For Additional Details & Reinf. Steel Extending from Ftg. for Counterfort Type 3 See Drawing S-80

Legend
F.F. = Far Face
N.F. = Near Face
E.F. = Each Face

RETAINING WALL I-A SECTION 3 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

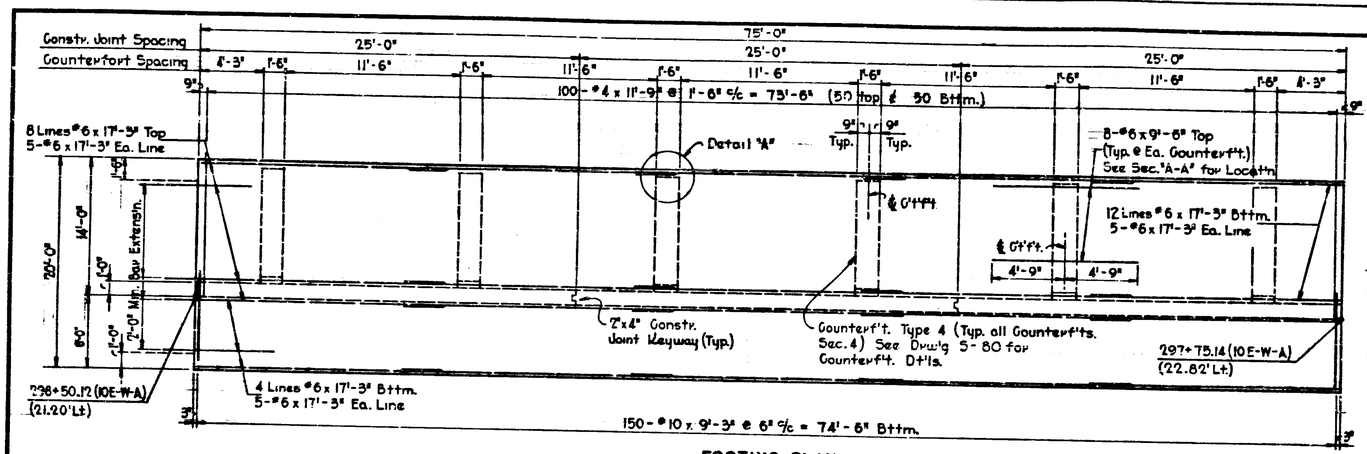
JULY 3, 1969

SUBMITTED FOR APPROVAL:

DRAWING:- S-75 or S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED _____ CK'D. _____
DRAWN JES FDM CK'D. VHJ
TRACED _____ CK'D. _____

Rev 12-1-70



DESIGNED ____ C'K'D ____
DRAWN IES FDM C'K'D VHJ
TRACED ____ C'K'D ____

Rev 12-1-70

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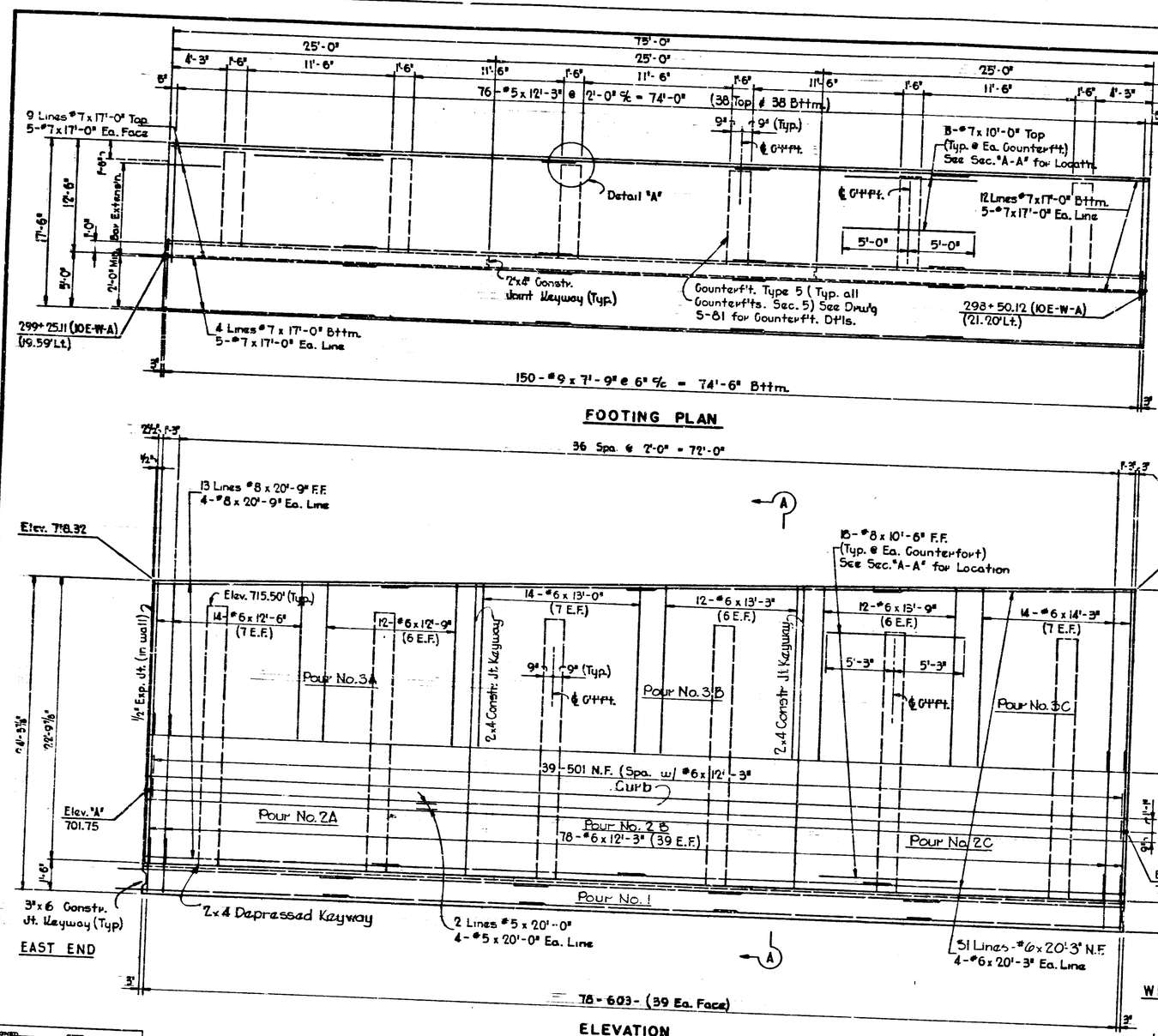
RETAINING WALL I-A SECTION 4 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL: Charles Coley

DRAWING:- S-76 OF S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



Note:
See Drw'g. S-72 for Gen. Arrangem't. of Retain'g Wall I-A
See Drw'g. S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g. S-81 for Counterfort Dt'ls.
See Drw'g. S-82 for Reinf. Bar Diagrams
See Drw'g. S-83 for Bill of Material

RETAINING WALL I-A SECTION 5 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:- [signature]

DRAWING:- S-77 OF S-87
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

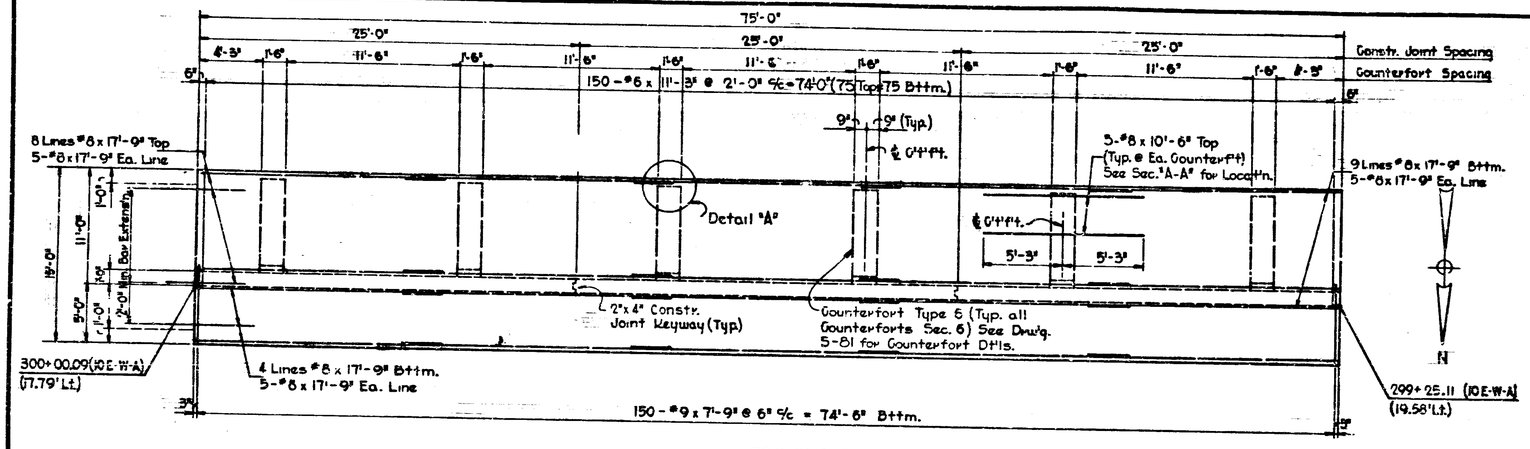
CHAS. M. COLE — No. 3683 — STATE OF INDIANA — REGISTERED PROFESSIONAL ENGINEER

DESIGNED ___ C'K'D. ___
DRAWN JES PDM C'K'D. VHJ
TRACED ___ C'K'D. ___

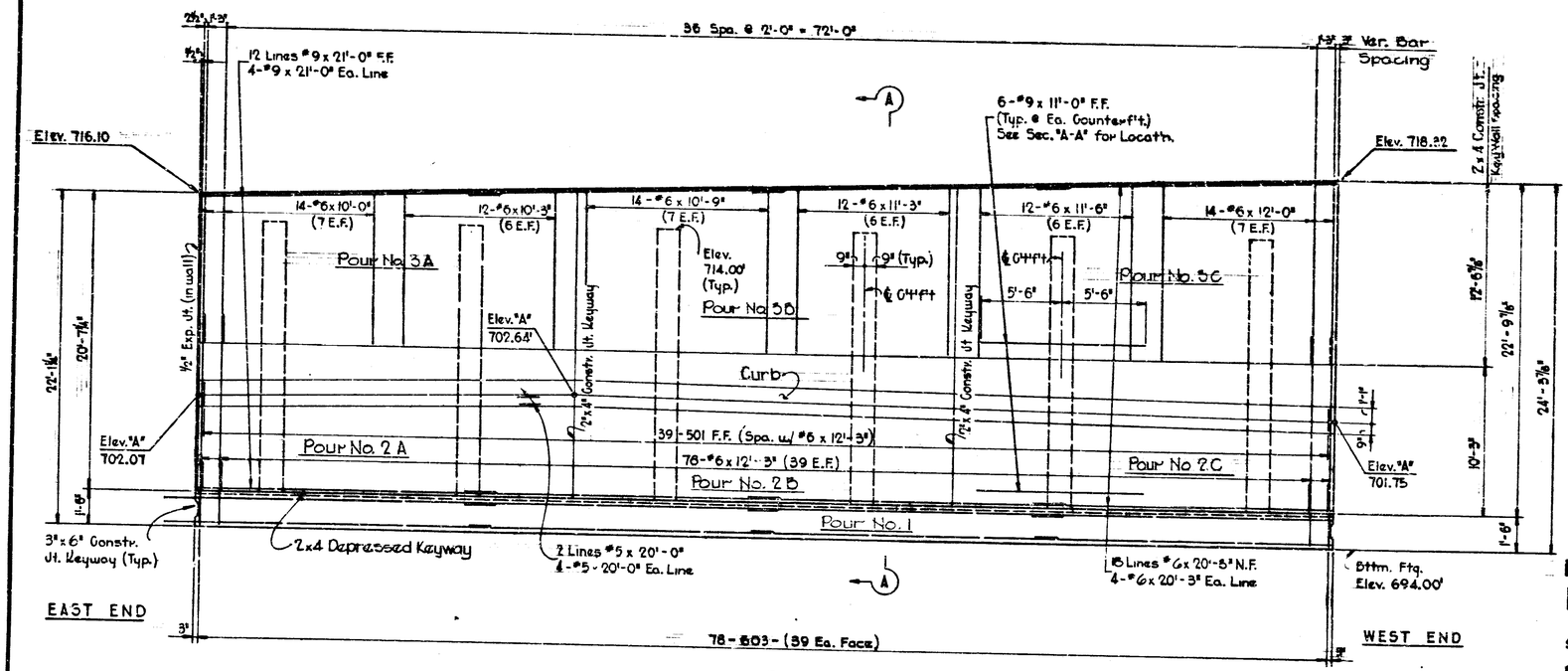
PROJECT NO. | LINE | SHEET NO. | TOTAL SHEETS | FILE

Rev. 12-1-70

Rev. 12-1-70

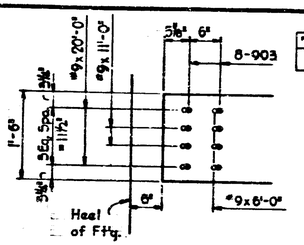


FOOTING PLAN



ELEVATION

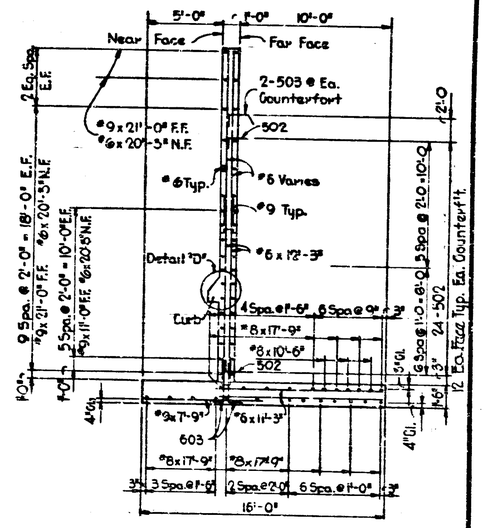
Rev 12-1-70



Note: For Additional Details & Reinf. Steel Extending from Footing for Counterfort Type 6 See Drw'g. S-81

BRIDGES OVER 20' SPAN					
FED. ROAD DESIG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)77	1970	92	118

DETAIL A



SECTION A-A

Max. Soil Pressure = 2.2 T.S.F.

Note:
See Drw'g. S-77 for Detail "D"
See Drw'g. S-72 for Gen. Arrangem't. of Retain'g Wall I-A
See Drw'g. S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g. S-81 for Counterfort Dt'ls.
See Drw'g. S-82 for Reinf. Bar Diagrams
See Drw'g. S-83 for Bill of Material

RETAINING WALL I-A SECTION 6 DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

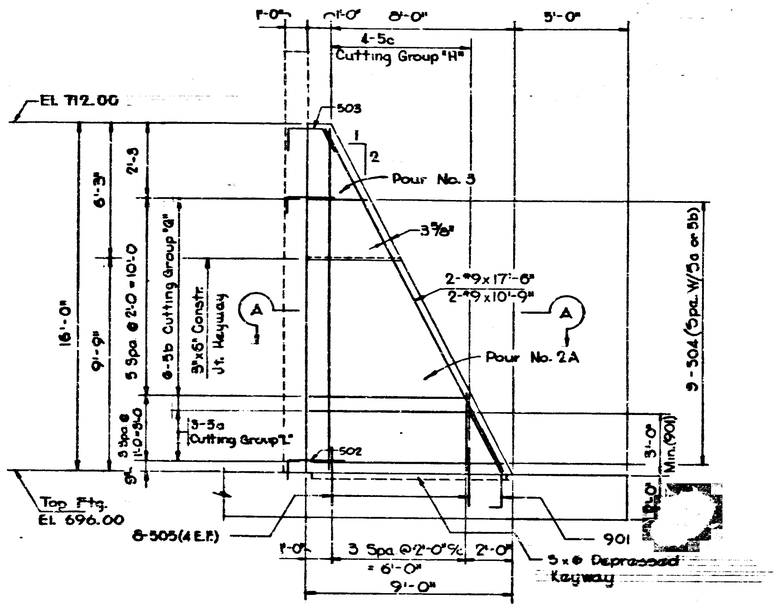
JULY 3 1969

SUBMITTED FOR APPROVAL:- Edward Cole

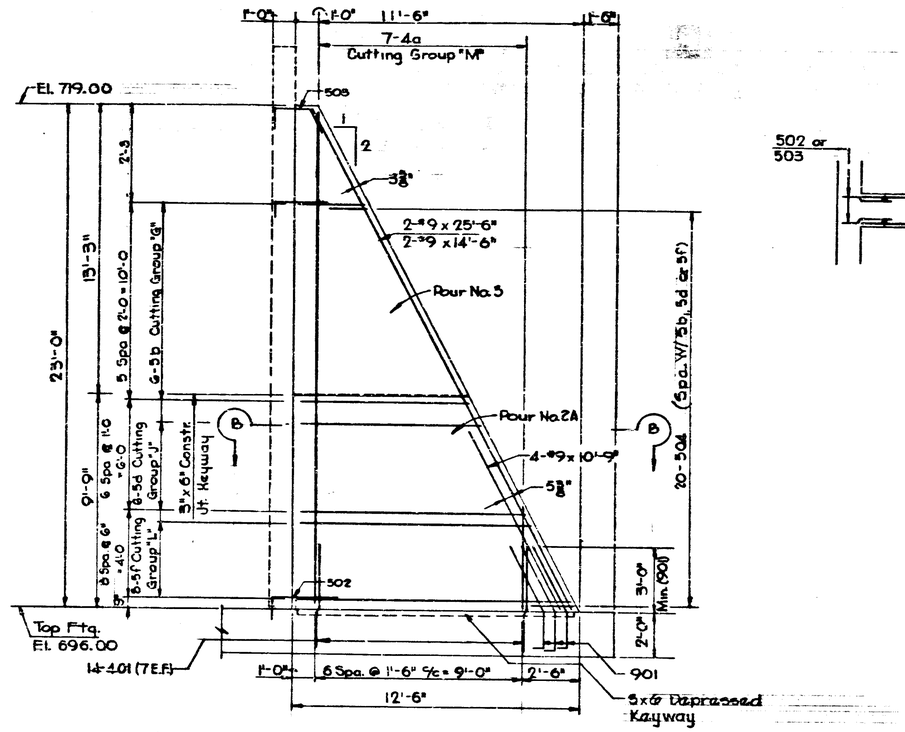
DRAWING: S-78 OF S-87
PROJECT:- I-70-3(65)77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

DESIGNED ____ C'K'D ____
DRAWN IES FDN C'K'D VHJ
TRACED ____ C'K'D ____

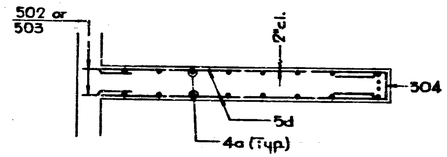
Rev 12-1-70



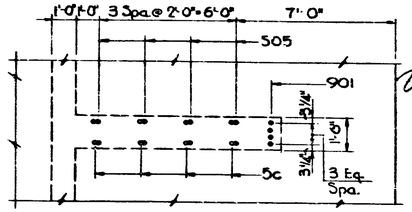
ELEVATION-COUNTERFORT TYPE-1



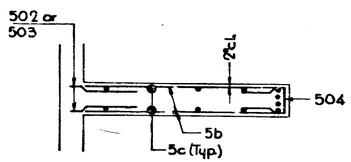
ELEVATION-COUNTERFORT TYPE-2



SECTION B-B



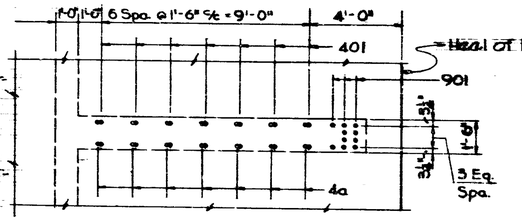
PART FOOTING PLAN- COUNTERFORT TYPE-1



SECTION A-A

Note: For Addition Details of Steel Extending from footing for Counterfort Type 1 See Drawing S-73 Detail A

Note: For Addition Details of Steel Extending from footing for Counterfort Type 2 See Drawing S-73 Detail B



PART FOOTING PLAN- COUNTERFORT TYPE - 2

Notes:
See Drwg. S-71 for Gen. Arrangem't. of Retain'g Wall 1-A
See Drw'g. S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g. S-82 for Reinf Bar Diagrams
See Drw'g. S-83 for Bill of Material

COUNTERFORT DETAILS TYPES 1 & 2
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:- Glenn Cole

DRAWING:- S-79 OF S-87
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-7077-2386

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)177	1970	93	118

DESIGNED — C'K'D
DRAWN PDM & JA C'K'D VHJ
TRACED — C'K'D

Rev 12-1-70

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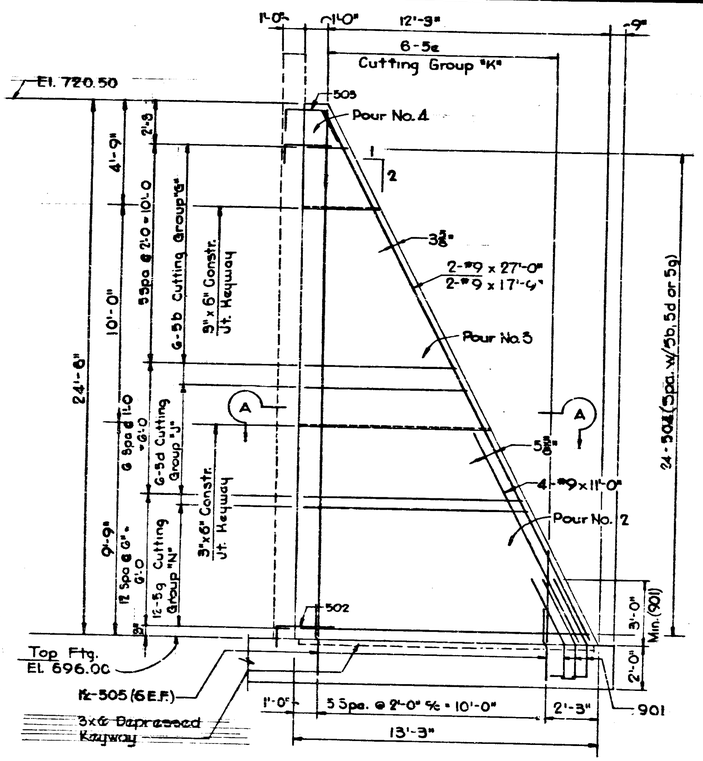
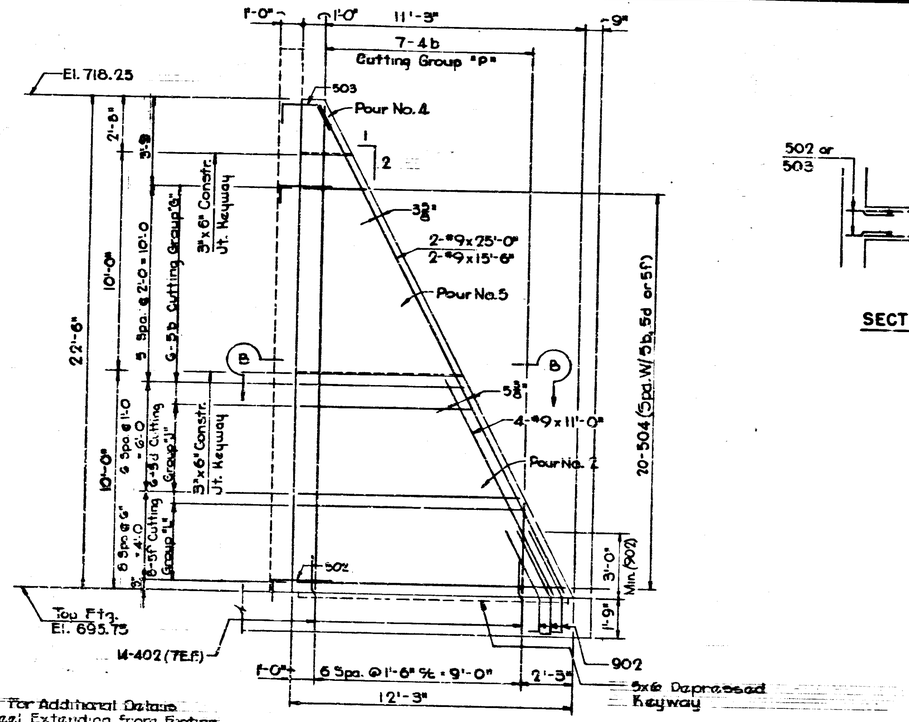
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)177	1970	84	118



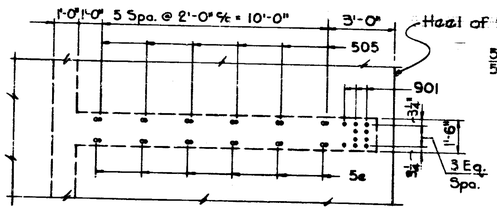
ELEVATION - COUNTERFORT TYPE-3



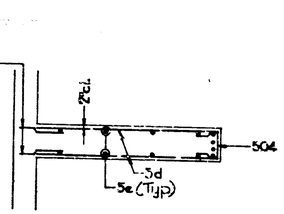
ELEVATION - COUNTERFORT TYPE-4

Note: For Additional Details of Steel Extending from Footing for Counterfort Type 3 See Drwg. S-74 & S-75 Detail A

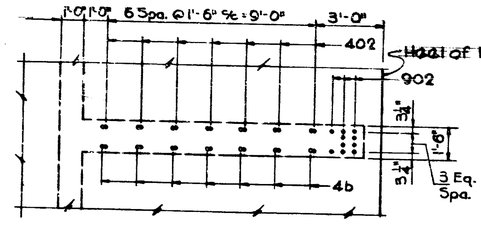
Note: For Additional Details of Steel Extending from Footing for Counterfort Type 4 See Drwg. S-76 Detail A



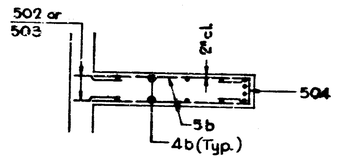
PART FOOTING PLAN - COUNTERFORT TYPE-3



SECTION A-A



PART FOOTING PLAN - COUNTERFORT TYPE-4



SECTION B-B

Note:
See Drw'g S-71+72 for Gen. Arrangem't. of Retainy Wall 1-A
See Drw'g S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g S-82 for Reinf. Bar Diagrams
See Drw'g S-83 for Bill of Material

COUNTERFORT DETAILS TYPES 3 & 4
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

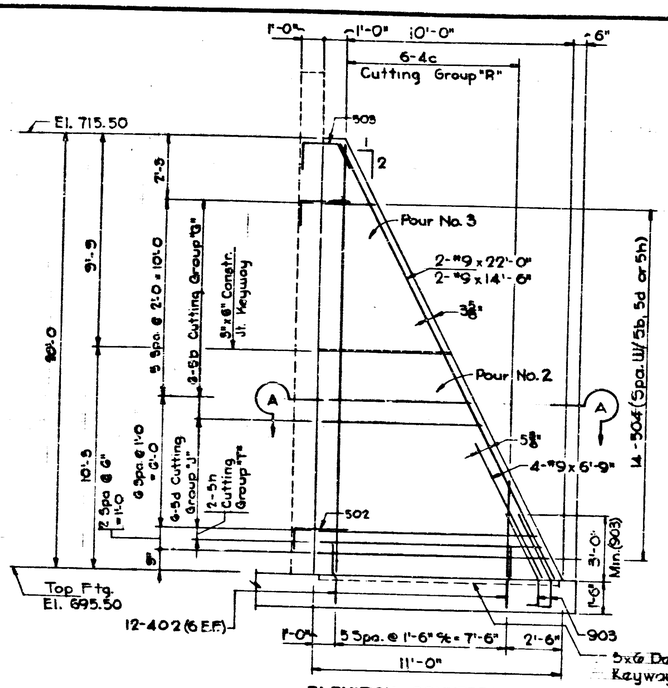
DRAWING: S-80 OF S-87
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

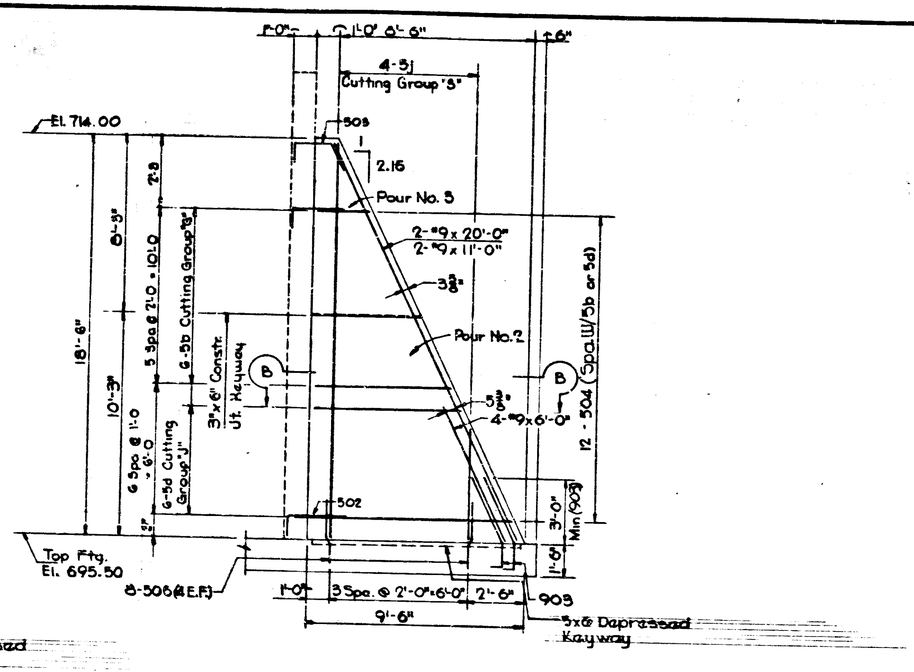
DESIGNED	C'K'D
DRAWN FROM G.I.A.	C'K'D YHJ
TRACED	C'K'D

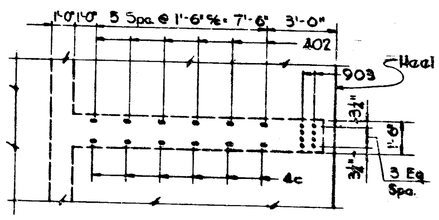
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Rev 12-1-70

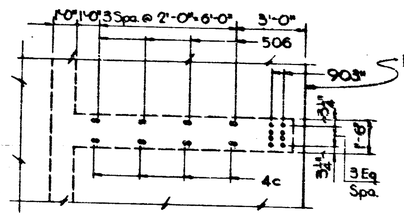
BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(88)177	1970	96	118

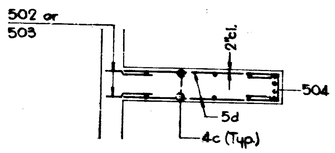




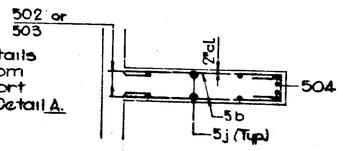


Note: For Addition Details of Steel Extending from Footing for Counterfort Type 5 See Dwg. S-78 Detail A.





Note: For Addition Details of Steel Extending from Footing for Counterfort Type 6 See Dwg. S-77 Detail A.



Note:
See Drw'g. S-72 for Gen. Arrangem't of Retain'g Wall 1-A
See Drw'g. S-14 for Gen. Plan Br. File I-70-77-2386
See Drw'g. S-82 for Reinf. Bar Diagrams
See Drw'g. S-85 for Bill of Material

COUNTERFORT DETAILS TYPES 5 & 6
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE — JULY, 3 1969

SUBMITTED FOR APPROVAL: Robert Cole

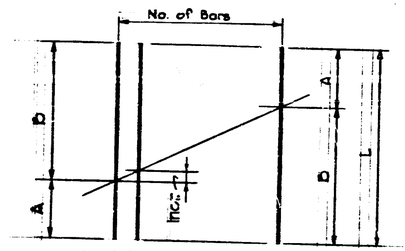
DRAWING:- S-81 OF S-87
PROJECT:- I-70-3(65)177
BRIDGE CONTRACT NO. B-7926
BRIDGE FILE:- I-70-77-2386

DESIGNED — CK'D
DRAWN FDH & JA — CK'D VHJ
TRACED — CK'D

Rev 12-1-70

Rev 12-1-70

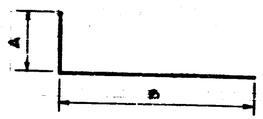
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



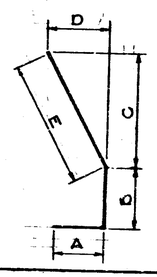
1 Bar Cuts 2 Lengths

TYPICAL CUTTING GROUP DIAGRAM

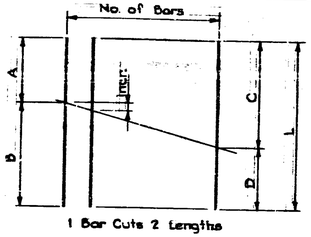
Cutting Group	Mark or Size	No. of Bars	A	B	Incr	L
A	10d	34	7'-9	16'-0	3"	28'-9
B	5a	13	7'-0	19'-0	1'-0	26'-0
G	5b	6	1'-11½	6'-11½	1'-0	8'-11
H	5c	4	3'-9	15'-9	4'-0	19'-6
J	5d	6	7'-9½	9'-11½	6"	17'-5
K	5e	6	4'-9	24'-9	4'-0	28'-6
L	5f	6	10'-2½	11'-11½	3"	22'-2
M	4a	7	4'-9	22'-9	3'-0	27'-6
N	5g	12	10'-2½	12'-11½	3"	23'-2
P	4b	7	4'-9	22'-9	3'-0	26'-6
R	4c	6	4'-9	19'-9	3'-0	24'-6
S	5j	4	5'-2	18'-1	4'-4	23'-3
T	5h	2	10'-2½	10'-5½	3"	20'-8



Mark or Size	Dimension A	B	Length
1001	1'-10"	3'-8"	5'-6"
601	1'-0"	3'-9"	4'-9"
502	10"	2'-5"	3'-5"
401	8"	2'-7"	3'-3"
505	10"	3'-5"	4'-3"
602	1'-0"	3'-6"	4'-6"
402	8"	2'-4"	3'-0"
603	1'-0"	3'-3"	4'-3"
506	10"	2'-11"	3'-9"



Mark or Size	Dimensions A	B	C	D	E	Length
901	1'-7"	1'-9"	2'-10"	1'-5"	3'-2"	6'-6"
902	1'-7"	1'-6"	2'-10"	1'-5"	3'-2"	6'-3"
903	1'-7"	1'-3"	2'-10"	1'-5"	3'-2"	6'-0"



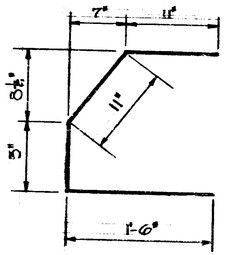
1 Bar Cuts 2 Lengths

CUTTING GROUP DIAGRAM

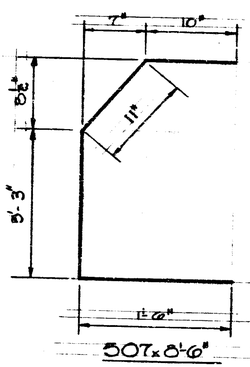
Cutting Group	Mark or Size	No. of Bars	A	B	C	D	Incr	L
C	8a	2	5'-6	17'-6	9'-6	13'-6	4'-0	23'-0
D	6b	2	4'-9	16'-9	8'-9	12'-9	4'-0	21'-6
E	5b	2	11'-0	23'-0	15'-0	21'-0	2'-0	40'-0
F	6c	2	17'-0	23'-0	15'-0	21'-0	2'-0	40'-0

BRIDGES OVER 20' SPAN

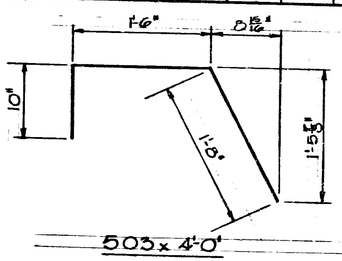
FINAL ROAD DESIGNATION	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F70384 77	1970	98	118



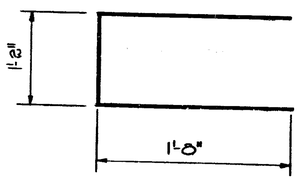
501 x 3'-9"



507 x 3'-6"



503 x 4'-0"



504 x 4'-6"

DESIGNED ____ C'K'D ____
DRAWN G.T.A. C'K'D V.H.J
TRACED M.B.A. C'K'D V.H.J

Rev 12-1-70

Rev 12-1-70

RETAINING WALL I-A
BAR DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE JULY 3, 1969

SUBMITTED FOR APPROVAL: [signature]

DRAWING:- S-82 OF S-87
PROJECT:- I-70-3(63) 77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD DESIGN.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65) 77	1970	97	118

BILLS OF MATERIAL

SECTION 1

Reinforcing Steel

Mark or Size	No. Bars	Length	Weight
11	30	10'-5"	
Total #11 Bars =			2,725
10a	68	5'-6"	
10a	54	23'-9"	
Total #10 Bars =			5,004
901	14	6'-0"	
9	2	23'-6"	
9	8	17'-9"	
9	2	14'-6"	
9	6	10'-9"	
Total #9 Bars =			921
8a	2	23'-0"	
8b	2	40'-0"	
8	55	24'-9"	
8	4	19'-6"	
8	1	15'-0"	
8	1	9'-0"	
8	1	5'-0"	
Total #8 Bars =			2,505
7	17	6'-9"	
Total #7 Bars =			235
601	26	4'-9"	
6a	15	26'-0"	
6b	2	21'-6"	
6c	2	40'-0"	
6	55	24'-9"	
6	11	15'-0"	
6	6	13'-0"	
6	1	13'-0"	
6	76	14'-6"	
6	4	10'-9"	
6	16	9'-0"	
6	20	11'-9"	
6	1	5'-0"	
Total #6 Bars =			5,072

SECTION 1 cont

Reinforcing Steel

Mark or Size	No. Bars	Length	Weight
501	22	5'-9"	
502	56	5'-3"	
503	4	4'-0"	
504	29	4'-6"	
505	8	4'-3"	
5b	12	8'-11"	
5c	4	19'-6"	
5d	6	17'-5"	
5f	8	22'-2"	
5	4	21'-9"	
Total #5 Bars =			1050
401	14	6'-6"	
4a	7	27'-0"	
4	54	15'-6"	
Total #4 Bars =			511
Total Reinf. Steel =			18399 lb.

Concrete

Pour No. 1 (Class "B" Conc. in Footing)	536 Cu.Yd.
Pour No. 2A	78.9
Pour No. 2B	8.3
Pour No. 3	16.2
Total Class "B" Conc. Above Footing	434 Cu.Yd.

Miscellaneous

"B" Borrow	600 Cu.Yd.
Paved Side Ditch Type 'A'	46 L.F.
Surplus Excavation	270 Cu.Yd.

SECTION 2

Reinforcing Steel

Mark or Size	No. Bars	Length	Weight
11	100	10'-5"	
Total #11 Bars =			3,448
901	40	6'-6"	
9	5	27'-0"	
9	8	17'-9"	
9	16	11'-0"	
Total #9 Bars =			2,700
8	45	15'-6"	
8	98	10'-6"	
Total #8 Bars =			4,002
601	52	4'-9"	
6	87	18'-9"	
6	114	15'-0"	
6	104	12'-0"	
6	36	9'-6"	
6	52	9'-0"	
Total #6 Bars =			5,964
501	26	5'-9"	
502	192	5'-3"	
503	8	4'-0"	
504	96	4'-6"	
505	48	4'-3"	
5b	24	8'-11"	
5d	24	17'-5"	
5e	24	28'-6"	
5g	48	23'-2"	
5	6	17'-9"	
Total #5 Bars =			4035
4	60	15'-9"	
Total #4 Bars =			695
Total Reinf. Steel =			26728 lb.

Concrete

Pour No. 1 (Class "B" Conc. in footing)	833 Cu.Yd.
Pour No. 2A	21.6
Pour No. 2B	21.6
Pour No. 3A	15.8
Pour No. 3B	15.8
Pour No. 4A	9.8
Pour No. 4B	9.8
Total Class "B" Conc. Above Footing	944 Cu.Yd.

Miscellaneous

Excavation	380 Cu.Yd.
"B" Borrow	1295 Cu.Yd.
Paved Side Ditch Type 'A'	50 L.F.
Surplus Excavation	380 Cu.Yd.

SECTION 3

Reinforcing Steel

Mark or Size	No. Bars	Length	Weight
11	150	10'-5"	
Total #11 Bars =			5,169
901	60	6'-6"	
9	18	27'-0"	
9	18	17'-9"	
9	24	11'-0"	
Total #9 Bars =			4,049
8	60	20'-9"	
8	150	10'-6"	
Total #8 Bars =			7,195
601	78	4'-9"	
6	152	20'-9"	
6	145	17'-5"	
6	156	12'-0"	
6	54	9'-6"	
6	14	6'-9"	
6	18	5'-9"	
6	18	5'-0"	
6	14	7'-9"	
6	18	7'-5"	
6	14	6'-9"	
Total #6 Bars =			15,451
501	33	5'-9"	
502	288	5'-3"	
503	12	4'-0"	
504	144	4'-6"	
505	72	4'-3"	
5b	36	8'-11"	
5d	36	17'-5"	
5e	36	28'-6"	
5g	72	23'-2"	
5	8	20'-0"	
Total #5 Bars =			6140
4	100	15'-5"	
Total #4 Bars =			1,019
Total Reinf. Steel =			40001 lb.

Concrete

Pour No. 1 (Class "B" Conc. in Footing)	1230 Cu.Yd.
Pour No. 2A	21.6
Pour No. 2B	21.6
Pour No. 2C	21.6
Pour No. 3A	15.8
Pour No. 3B	15.8
Pour No. 3C	15.8
Pour No. 4A	8.7
Pour No. 4B	8.7
Pour No. 4C	9.4
Total Class "B" Conc. above Footing	1384 Cu.Yd.

Miscellaneous

"B" Borrow	1795 Cu.Yd.
Paved Side Ditch Type 'A'	75 L.F.
Surplus Excavation	565 Cu.Yd.

SECTION 4

Reinforcing Steel

Mark or Size	No. Bars	Length	Weight
10	150	9'-5"	
Total #10 Bars =			5,970
902	60	6'-3"	
9	18	25'-0"	
9	18	15'-6"	
9	24	11'-0"	
Total #9 Bars =			5,825
8	152	10'-6"	
8	56	20'-9"	
Total #8 Bars =			6,805
602	78	4'-6"	
2	144	20'-3"	
6	120	17'-3"	
6	156	12'-0"	
6	18	9'-6"	
6	14	6'-6"	
6	12	6'-3"	
6	12	5'-9"	
6	14	5'-6"	
6	12	5'-0"	
6	14	4'-6"	
Total #6 Bars =			12,160
501	31	5'-9"	
502	240	5'-3"	
503	12	4'-0"	
504	120	4'-6"	
507	8	8'-6"	
5b	36	8'-11"	
5d	36	17'-5"	
5f	48	22'-2"	
5	8	20'-0"	
5	2	13'-6"	
Total #5 Bars =			3918
402	84	3'-0"	
4b	48	20'-0"	
4	100	11'-9"	
Total #4 Bars =			1,697
Total Reinf. Steel			34374 lb.

Concrete

Pour No. 1 (Class "B" Conc. in Footing	970 Cu.Yd.
Pour No. 2A	21.0
Pour No. 2B	21.0
Pour No. 2C	22.9
Pour No. 3A	14.6
Pour No. 3B	14.6
Pour No. 3C	14.6
Pour No. 4A	5.3
Pour No. 4B	6.0
Pour No. 4C	6.7
Total Class "B" Conc. Above Footing	1267 Cu.Yd.

Miscellaneous

Surplus Excavation	510 Cu.Yd.
"B" Borrow	1555 Cu.Yd.
Paved Side Ditch Type 'A'	75 L.F.

SECTION 5

Reinforcing Steel

Mark or Size	No. Bars	Length	Weight
905	48	6'-0"	
9	18	22'-0"	
9	18	14'-6"	
9	150	7'-0"	
9	24	6'-9"	
Total #9 Bars =			6,972
8	52	20'-9"	
8	108	10'-6"	
Total #8 Bars =			5,909
7	125	17'-0"	
7	48	10'-0"	
Total #7 Bars =			3,525
605	78	4'-3"	
6	124	20'-3"	
6	14	14'-3"	
6	12	13'-3"	
6	18	13'-3"	
6	14	13'-0"	
6	18	12'-3"	
6	14	12'-0"	
6	70	12'-3"	
Total #6 Bars =			7,257
501	39	5'-9"	
502	168	5'-3"	
503	12	4'-0"	
504	84	4'-6"	
506	48	5'-11"	
5b	36	8'-11"	
5d	36	17'-5"	
5h	12	20'-8"	
5	8	20'-0"	
5	73	12'-3"	
Total #5 Bars =			3552
402	72	3'-0"	
4c	50	24'-0"	
Total #4 Bars =			733
Total Reinf. Steel =			23745 lb.

Concrete

Pour No. 1 (Class "B" Conc. in Footing)	729 Cu.Yd.
Pour No. 2A	20.0
Pour No. 2B	20.0
Pour No. 2C	20.0
Pour No. 3A	15.7
Pour No. 3B	16.4
Pour No. 3C	17.1
Total Class "B" Conc. Above Footing	1092 Cu.Yd.

Miscellaneous

Surplus Excavation	455 Cu.Yd.
"B" Borrow	1840 Cu.Yd.
Paved Side Ditch Type 'A'	75 L.F.

SECTION 6

Reinforcing Steel

Mark or Size	No. Bars	Leng	Weight
905	48	6'-0"	
9	48	8'-0"	
9	12	20'-0"	
9	48	11'-0"	
9	150	7'-9"	
9	24	6'-0"	
Total #9 Bars =			11,460
8	105	17'-9"	
8	18	10'-6"	
Total #8 Bars =			3,401
605	78	4'-3"	
6	72	20'-3"	
6	78	12'-3"	
6	14	12'-0"	
6	12	11'-6"	
6	168	11'-3"	
6	14	10'-9"	
6	18	10'-9"	
6	14	10'-0"	
Total #6 Bars =			7,941
501	99	5'-9"	
502	144	5'-3"	
503	12	4'-0"	
504	72	4'-6"	
506	48	5'-9"	
5b	36	8'-11"	
5d	36	17'-5"	
5i	24	23'-5"	
5	8	20'-0"	
Total #5 Bars =			2354
Total Reinf Steel =			27836 lb.

Concrete

Pour No. 1 (Class "B" Conc. in Footing)	666.7 Cu.Yd.
Pour No. 2A	18.5
Pour No. 2B	18.5
Pour No. 2C	18.5
Pour No. 3A	12.5
Pour No. 3B	13.2
Pour No. 3C	13.9
Total Class "B" Conc. above Footing	951 Cu.Yd.

Miscellaneous

Surplus Excavation	420 Cu.Yd.
"B" Borrow	1055 Cu.Yd.
Paved Side Ditch Type 'A'	75 L.F.

SUMMARY (Br. File I-70-77-2386)

Reinf. Steel	177086	lb.
Class "B" Conc. in Ftg.	498.5	Cu.Yd.
Class "B" Conc. above Ftg.	607.2	Cu.Yd.
Surplus Excavation	5,600	Cu.Yd.
"B" Borrow	7,480	Cu.Yd.
Paved Side Ditch Type 'A'	596	L.F.

Note: See Br. Std. C1 for Reinf. Bar Notes.

DESIGNED ____ CH'D ____
DRAWN G.T.A. CH'D VHJ
TRACED ____ CH'D ____

Rev 12-1-70 B-Borrow; Class "B" Conc.

Rev 12-1-70 E/C, CHL 12-10-70 TCC

RETAINING WALL I-A BILLS OF MATERIAL
INDIANA STATE HIGHWAY COMMISSION

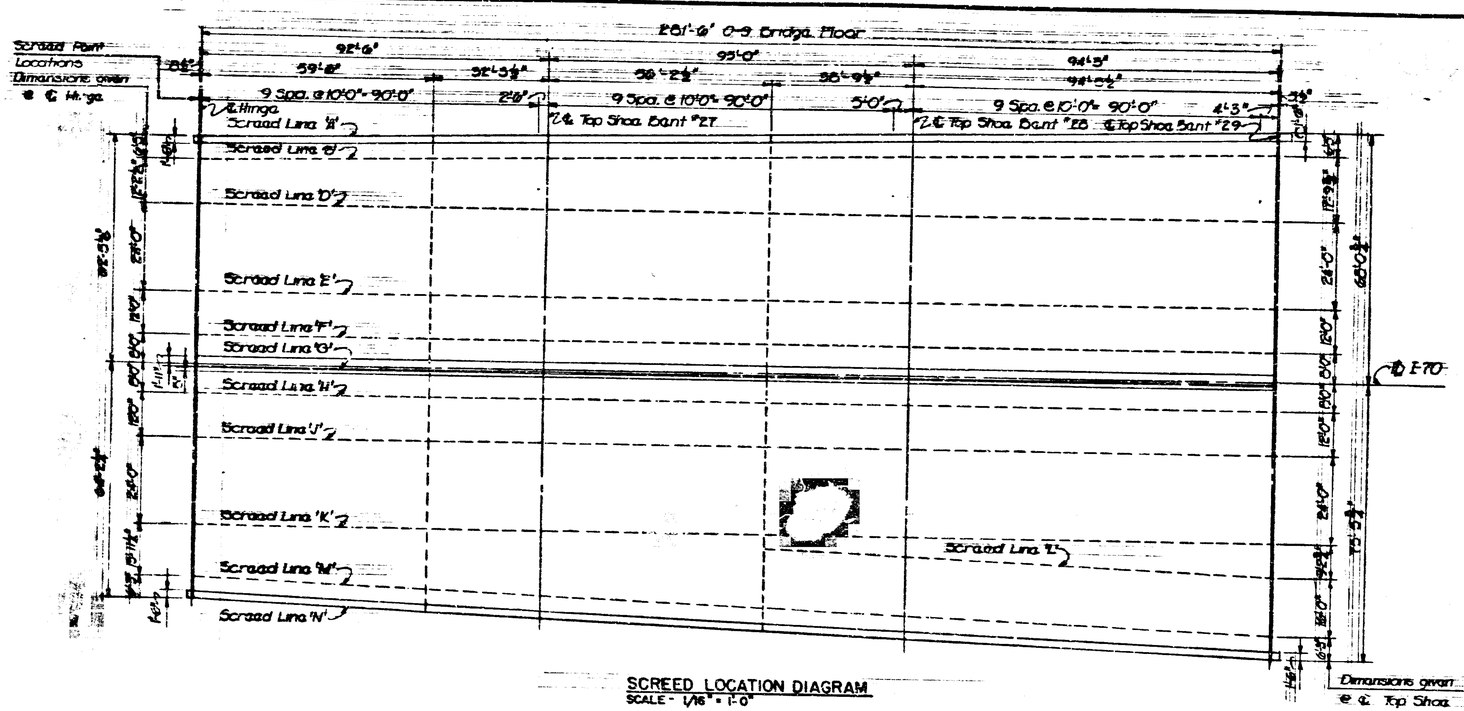
SCALE:- NONE — JULY 3, 1969

SUBMITTED FOR APPROVAL:- Steven Cole

DRAWING:- S-83 OF S-87
PROJECT:- I-70-3 (65) 77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

Screed Location Diagram



SCREED LOCATION DIAGRAM
SCALE - 1/16" = 1'-0"

BRIDGES OVER 20' SPAN					
FAI ROUTE SEC. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 B-7177	1970	98	118

Note:
See Drwg. S-86 for Concrete Dead Load Deflection Diagrams

SUPERSTRUCTURE DETAILS
INDIANA STATE HIGHWAY COMMISSION

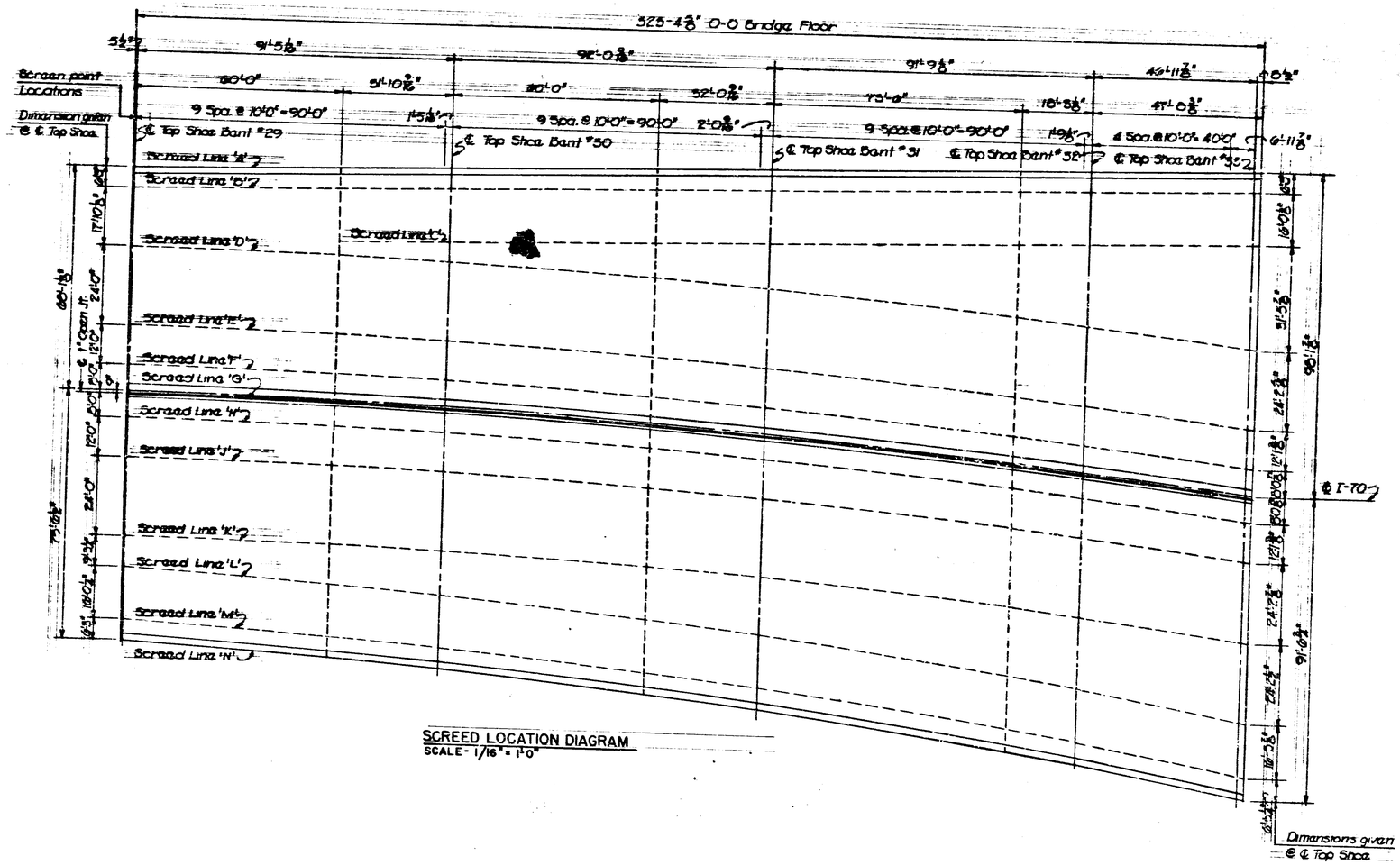
SCALE:- None
July 3, 1969
SUBMITTED FOR APPROVAL:
DRAWING S-84 OF 87
PROJECT:- I-70-365(77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2586

CHAS. W. ROSE No. 3083 STATE REGISTERED PROFESSIONAL ENGINEER

DESIGNED ____ CK'D ____
DRAWN C.M. CK'D ____
TRACED ____ CK'D ____

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	REV.

BRIDGES OVER 20' SPAN					
FED. BRGE. SEQ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (27) 77	1970	99	118



SCREED LOCATION DIAGRAM
SCALE- 1/16" = 1'-0"

Note:
See Drwg. S-87 for Concrete Dead Load Deflection Diagrams.

DESIGNED ____ C'K'D. ____
DRAWN GJA C'K'D. ____
TRACED ____ C'K'D. ____

SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

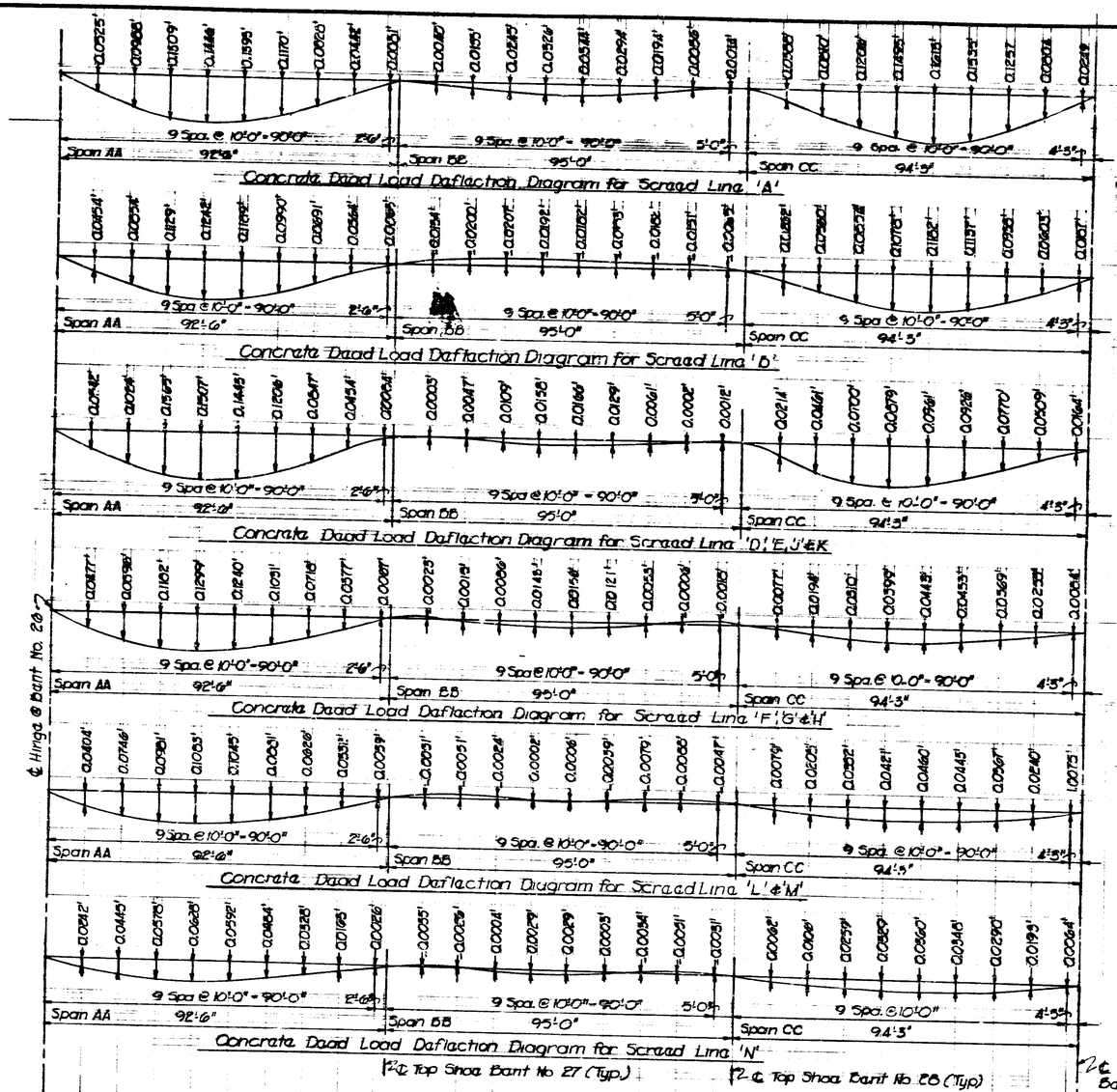
SCALE:- Noted July 5, 1969

SUBMITTED FOR APPROVAL: [signature]

DRAWING 385 OF 57
PROJECT:- I-70-3 (5) 77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2356

ESSEX W. COX No. 3653 STATE PROFESSIONAL ENGINEER

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE



BRIDGES OVER 20' SPAN

PUB. ROAD DESIG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3 (65)77	1970	100	1115

Note:
All Span Lenghts and Segments of Span Lengths are measured along ℄ I-70.

SUPERSTUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None

SUBMITTED FOR APPROVAL:- July 3, 1969

DRAWING-S-Chief Eng

PROJECT:- I-70-3(65)77

BRIDGE CONTRACT NO. B-7924

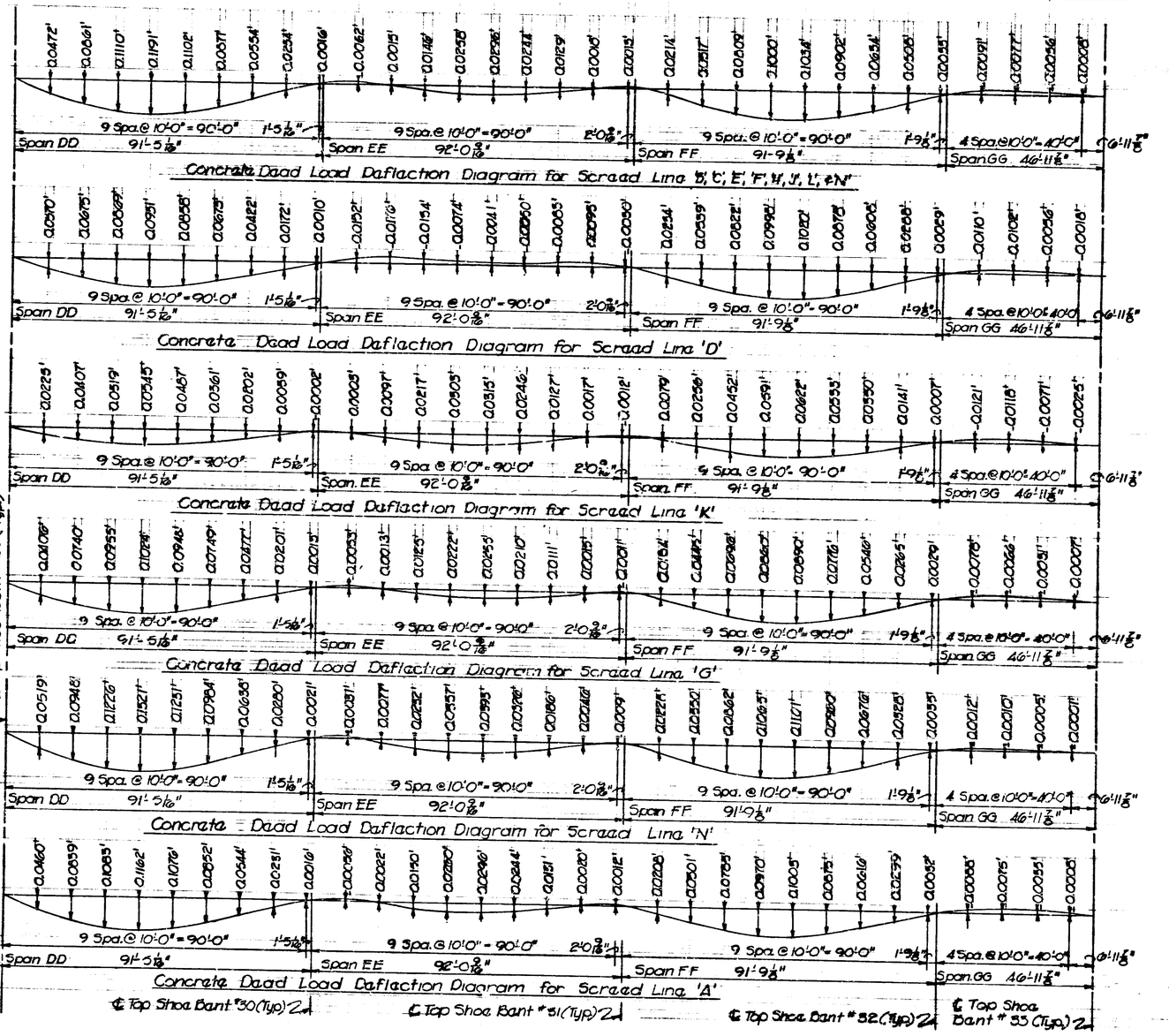
BRIDGE FILE:- I-70-77-2586

CLYDE W. COLE No. 9653 STATE ENGINEER INDIANA

DESIGNED ____ CK'D ____
DRAWN S.M. CK'D ____
TRACED ____ CK'D ____

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE

BRIDGES OVER 20' SPAN					
FED. ROAD SERIES	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-5 (65) 77	1970	101	118



Note:
All Span Lengths and Span Segments are measured along a line Tangent to the Curve at Sta. 295+39.62 ℄ I-70

SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None July 5, 1969

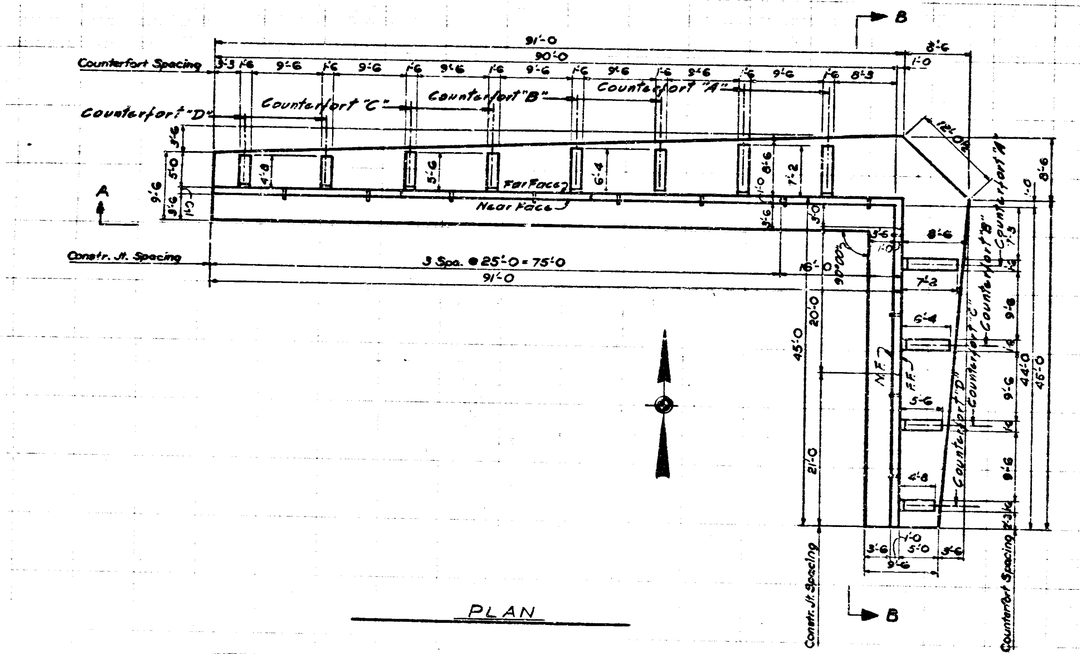
SUBMITTED FOR APPROVAL:

DRAWING: 3-8 OF 87
PROJECT:- I-70-5(65) 77
BRIDGE CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2306

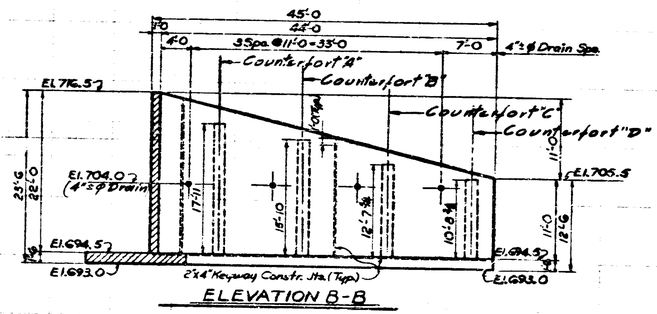
DESIGNED CK'D
DRAWN CB.LA CK'D
TRACED CK'D

PROJECT NO.	LOC.	SHEET NO.	TOTAL SHEETS	REV.

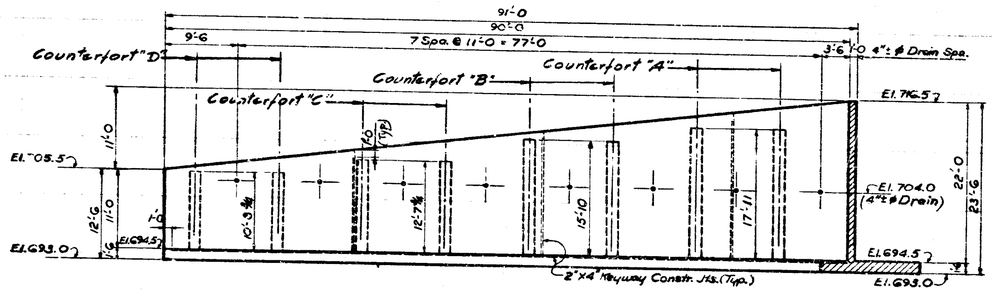
BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	101 A	118



PLAN



ELEVATION B-B



ELEVATION A-A

Legend
N.F. = Near Face
F.F. = Far Face
Ea. Fa. = Each Face

DESIGN DATA
Reinforced Concrete
Limit Stresses:-
f_s = 20,000 psi
f_c = 1,200 psi

RETAINING WALL 2-A
GENERAL ARRANGEMENT
INDIANA STATE HIGHWAY COMMISSION

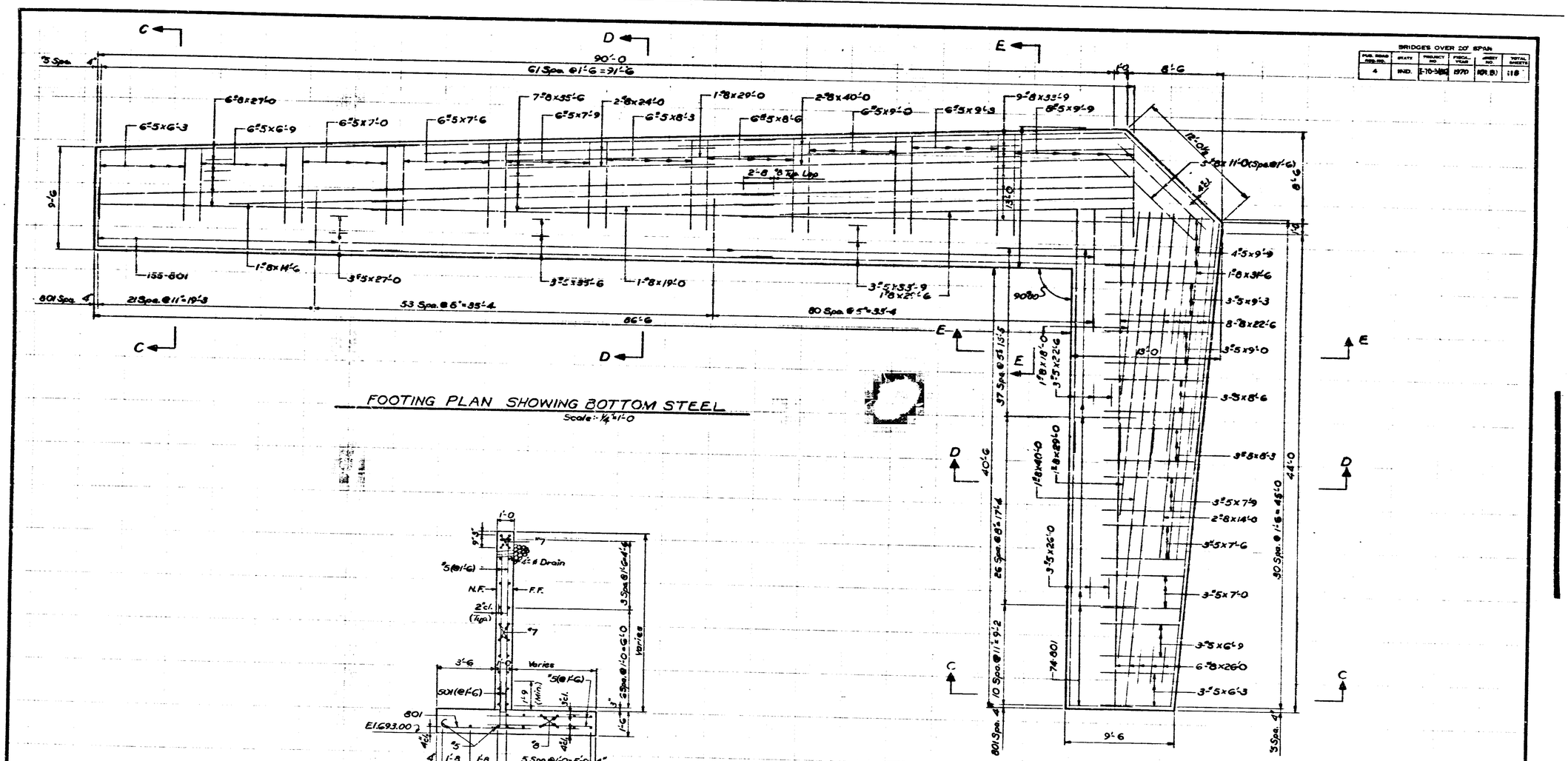
SCALE:- 1/8" = 1'-0
DATE:- MAY 14, 1971
RECOMMENDED FOR APPROVAL:- C. W. Walters
ASSISTANT DIRECTOR OF BRIDGE DESIGN
DRAWING:- C1 OF 7
PROJECT:- I-70-3(65) 77
CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

E. W. WALTERS 7099 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED J.D. CK'D J.B.
DRAWN R.B.H. 2-1971 CK'D J.D.
TRACED CK'D

NOTE:- See Bridge Sht. C1 for Reinforcing Bar Notes.

BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	801 B1	118



FOOTING PLAN SHOWING BOTTOM STEEL

Scale: 1/4"=1'-0

SECTION C-C

Scale 3/8"=1'-0

Max. Soil Pressure = 3T/Sq. Ft.

RETAINING WALL 2-A DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- MAY 14 1971

RECOMMENDED FOR APPROVAL:- E.W. Walters

DRAWING:- C2 OF 7

PROJECT:- I-70-3(65)77

CONTRACT NO. B-7024

BRIDGE FILE:- I-70-77-2386

E.W. WALTERS NO. 7059 STATE OF IND. AND REGISTERED PROFESSIONAL ENGINEER

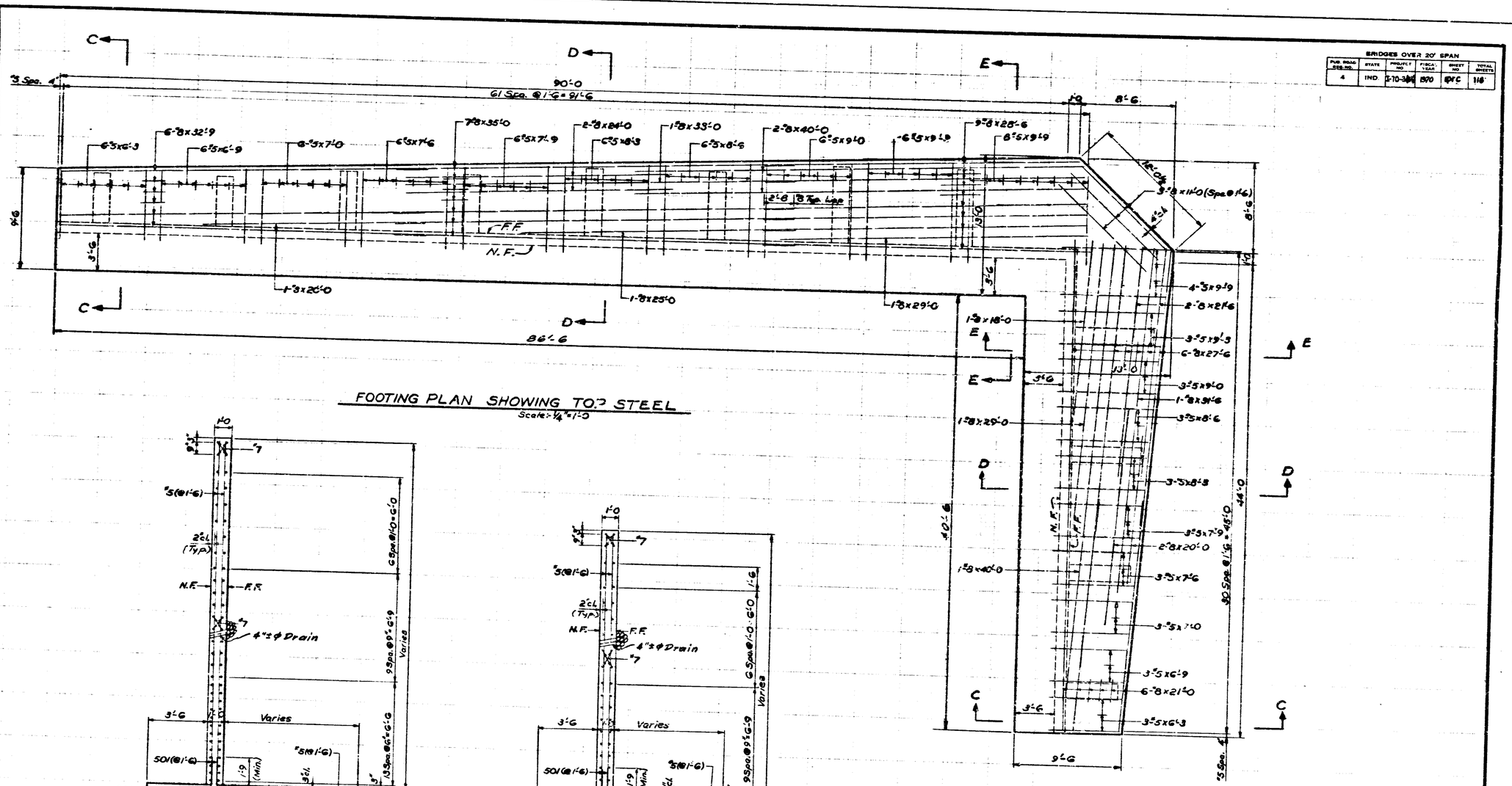
DESIGNED V.D C'K'D S.F.

DRAWN K.H.H. 2-18-71 C'K'D V.D

TRACED C'K'D

NOTE:- See Bridge Std. C1 For Reinforcing Bar Notes.

BRIDGES OVER 20' SPAN						
FUR. ROAD SYS. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	6P-C	118



FOOTING PLAN SHOWING TOP STEEL

Scale:- 1/4"=1'-0

SECTION E-E

Scale:- 3/8"=1'-0

Max. Soil Pressure = 3 T/Sq. Ft.

SECTION D-D

Scale:- 3/8"=1'-0

Max. Soil Preasure = 3 T/Sq. Ft.

NOTE:- See Bridge Std. C1 For Reinforcing Bar Notes.

DESIGNED J.D. C'K'D S.I.P.
DRAWN R.M.H. & R.H.H. C'K'D J.D.
TRACED C'K'D

RETAINING WALL 2-A DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- MAY 14, 1971

RECOMMENDED FOR APPROVAL:- E W Walters

DRAWING:- C3 OF 7

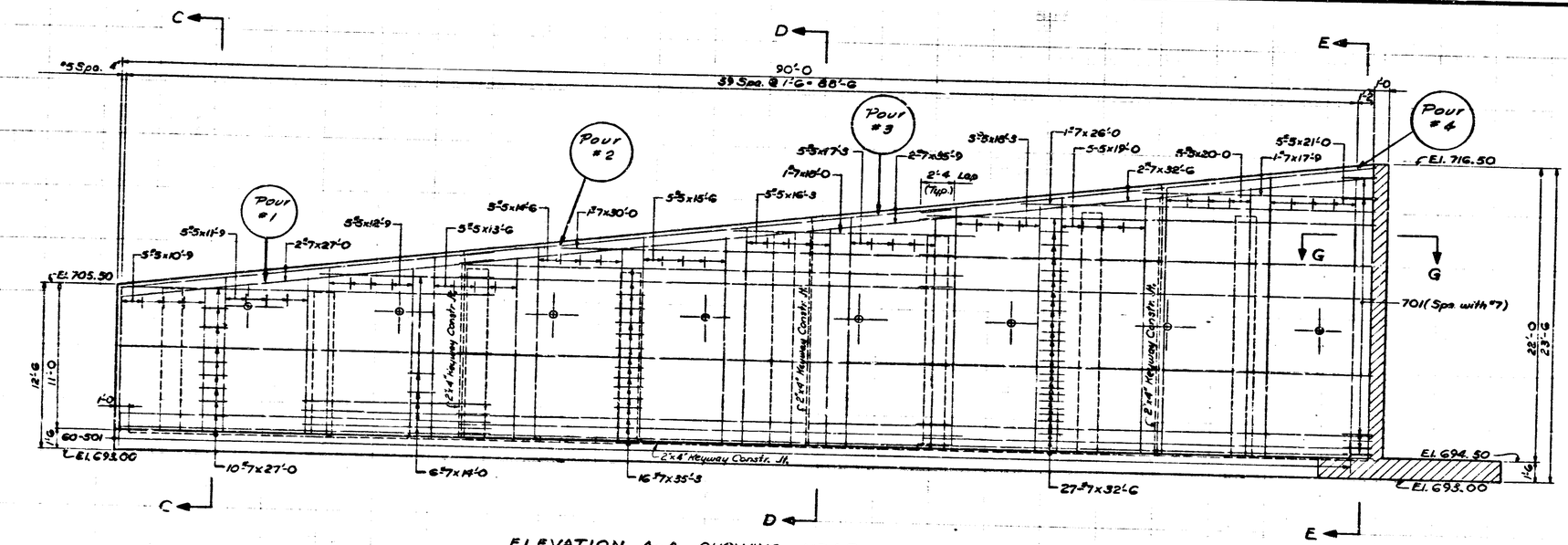
PROJECT:- I-70-3(65)77

CONTRACT NO. 8-7924

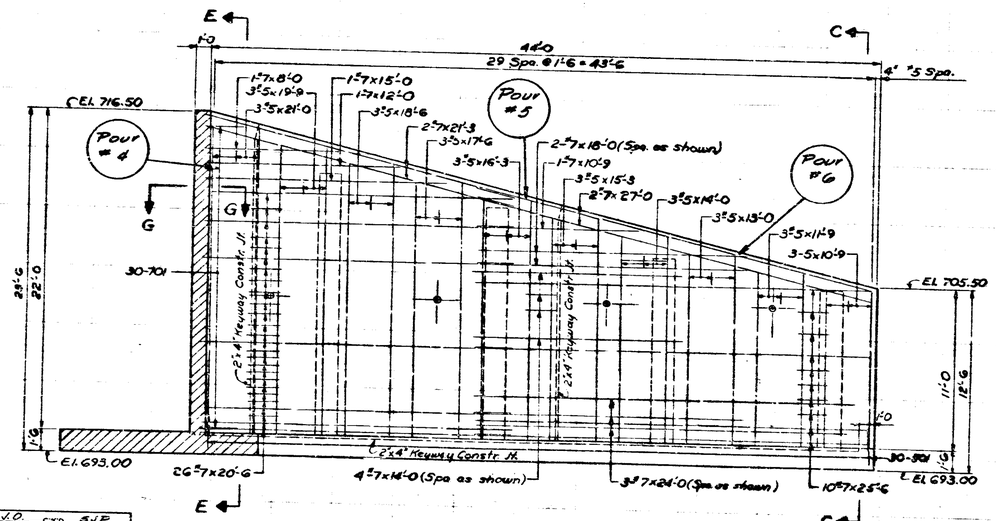
BRIDGE FILE:- I-70-77-2386

E. W. WALTERS 7070 PROFESSIONAL ENGINEER

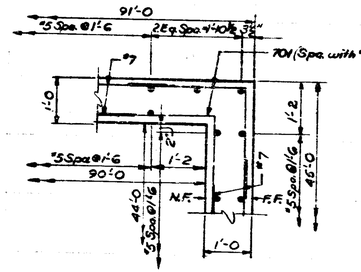
BRIDGES OVER 20' SPAN					
FUR. ROAD SIGN NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	1070	118



ELEVATION A-A SHOWING NEAR FACE STEEL



ELEVATION B-B SHOWING NEAR FACE STEEL



SECTION G-G
Scale:- ¾" = 1'-0

NOTE:- See Bridge Std. C, for Reinforcing Bar Notes.

DESIGNED V.D. C'K'D. G.I.P.
DRAWN R.W.H. 2-18-71 C'K'D. V.D.
TRACED C'K'D.

RETAINING WALL 2A DETAILS
INDIANA STATE HIGHWAY COMMISSION

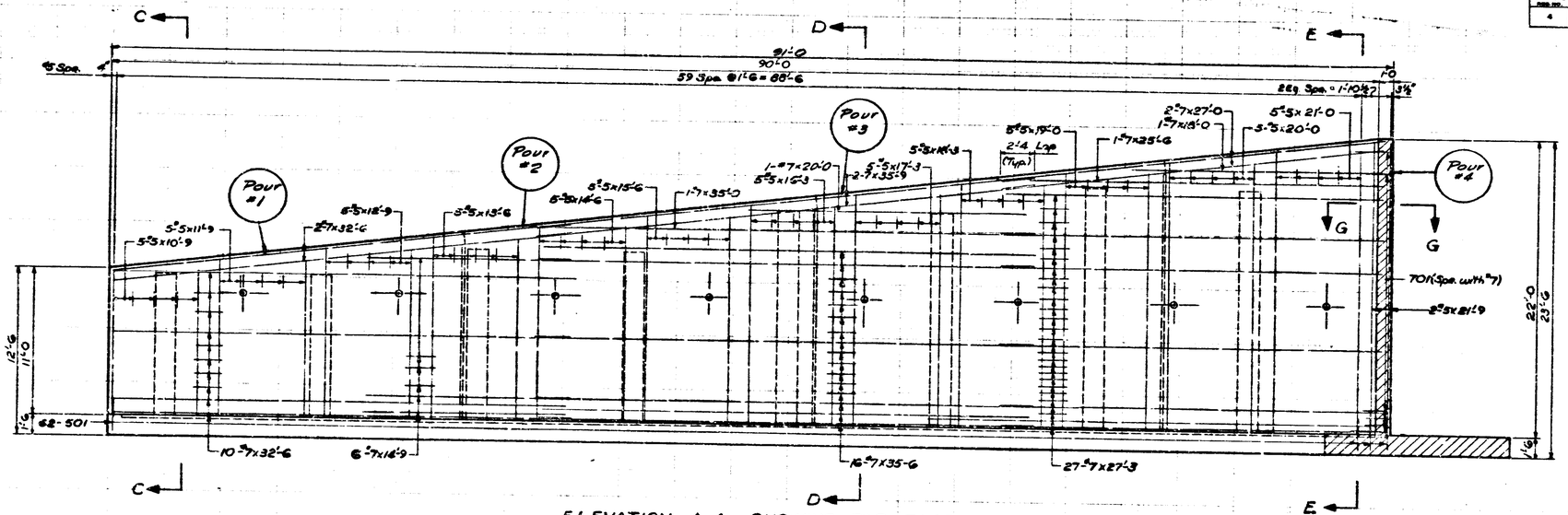
SCALE:- ¼" = 1'-0, Unless Noted DATE:- MAY 14, 1971
RECOMMENDED FOR APPROVAL:- E. W. Walters
ASSISTANT ENGINEER OF BY-PASS DESIGN

DRAWING:- C$_6$ OF 7
PROJECT:- I-70-3(65)77
CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2986

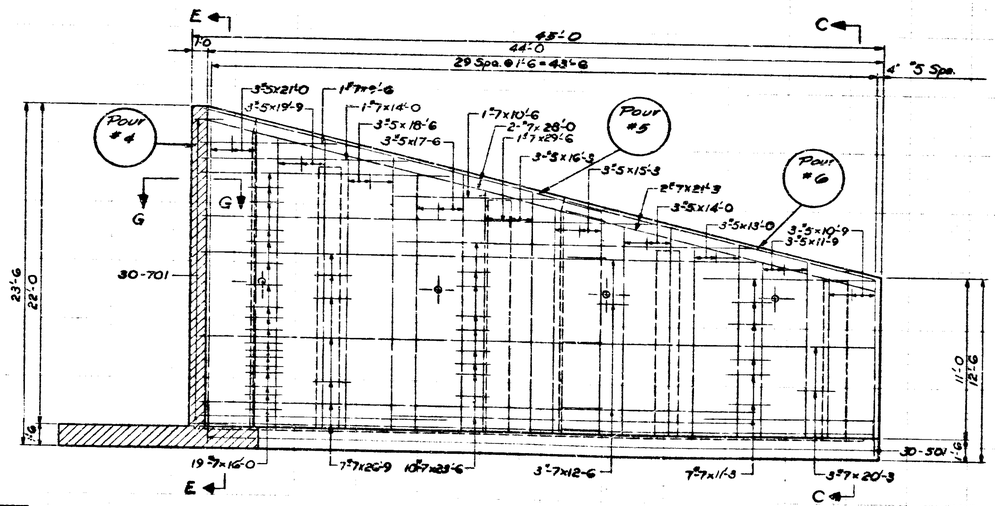
E. W. WALTERS 7019 STATE OF INDIANA REGISTERED PROFESSIONAL ENGINEER

BRIDGES OVER 20' SPAN

FED. ROAD PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	101E	118



ELEVATION A-A SHOWING FAR FACE STEEL



ELEVATION B-B SHOWING FAR FACE STEEL

NOTE:- See Bridge Std. C1 for Reinforcing Bar Notes.

DESIGNED J.O. C'K'D S.F.P.
DRAWN E.W.W. 12-18-70 C'K'D V.D.
TRACED C'K'D

RETAINING WALL 2A DETAILS

INDIANA STATE HIGHWAY COMMISSION

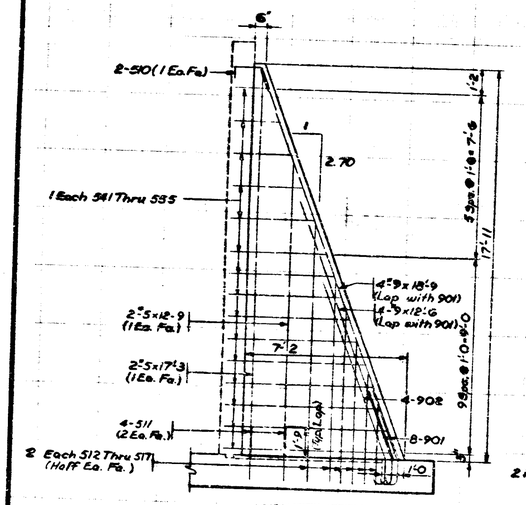
SCALE:- ½" = 1'-0 DATE:- MAY 14, 1971

RECOMMENDED FOR APPROVAL:- E W Walters
ASSISTANT DIRECTOR OF BRIDGE DESIGN

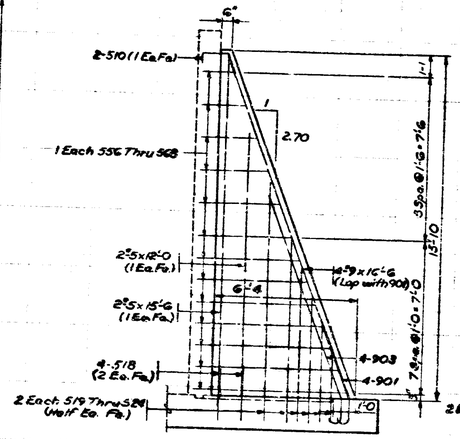
DRAWING:- C5 OF 7
PROJECT:- I-70-3(65)77
CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

E. W. WALTERS 7059 STATE OF INDIANA PROFESSIONAL ENGINEER

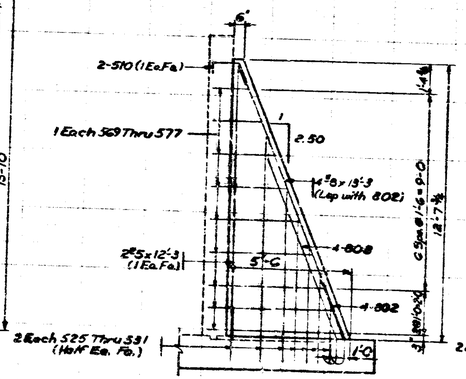
BRIDGES OVER 20' SPAN					
FED. ROAD DESIGN.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	101F	118



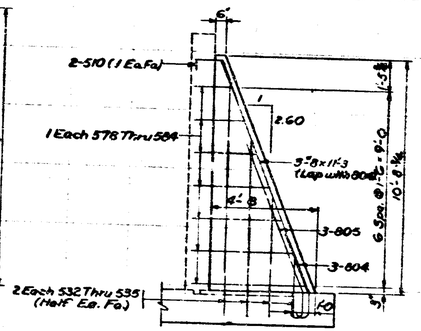
ELEVATION - COUNTERFORT A



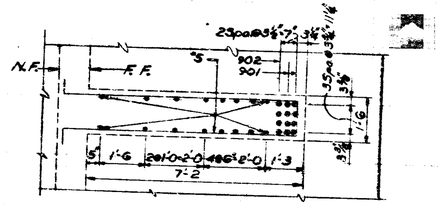
ELEVATION - COUNTERFORT B



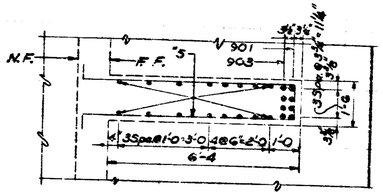
ELEVATION - COUNTERFORT C



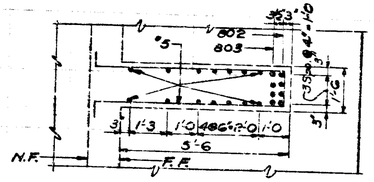
ELEVATION - COUNTERFORT D



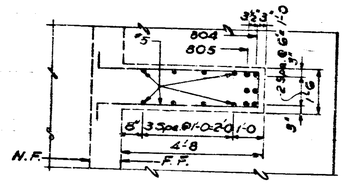
PART FOOTING PLAN, COUNTERFORT A
Scale:- ½"=1'-0



PART FOOTING PLAN, COUNTERFORT B
Scale:- ½"=1'-0



PART FOOTING PLAN, COUNTEREQRT C
Scale:- ½"=1'-0



PART FOOTING PLAN, COUNTERFORT D
Scale:- ½"=1'-0

RETAINING WALL 2A DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- ¾"=1'-0 UNLESS NOTED DATE:- MAY 14, 1971

RECOMMENDED FOR APPROVAL:- E W Walters

DRAWING:- C6 OF 7
PROJECT:- I-70-3(65)77
CONTRACT NO. B-7924
BRIDGE FILE:- I-70-77-2386

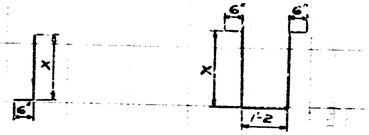
L. W. WALTERS No. 7059 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED VD C'K'D EWP
DRAWN SHH 2-15 C'K'D VD
TRACED C'K'D

NOTE:- See Bridge Std. C1 For Reinforcing Bar Notes.

BRIDGES OVER 20' SPAN					
PUB. ROAD DESIG.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	I-70-3(65)	1970	101 B	118

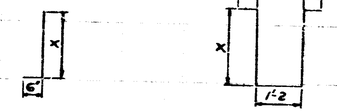
COUNTERFORT A



SIZE & MARK	X	LENGTH
511	2'-11	3'-5
512	12'-0	12'-6
513	9'-4	5'-10
514	8'-0	8'-6
515	6'-8	7'-2
516	5'-4	5'-10
517	4'-0	4'-6

SIZE & MARK	X	LENGTH
541	7'-6	17'-8
542	7'-2	16'-4
543	6'-10	13'-10
544	6'-5	15'-0
545	6'-0	14'-8
546	5'-8	13'-6
547	5'-3	12'-8
548	4'-11	12'-2
549	4'-6	11'-2
550	4'-2	10'-6
551	3'-8	9'-6
552	3'-1	8'-4
553	2'-7	7'-4
554	2'-0	6'-2
555	1'-6	5'-2

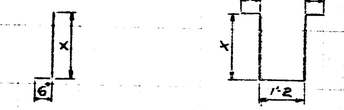
COUNTERFORT C



SIZE & MARK	X	LENGTH
525	2'-11	3'-5
526	10'-8	11'-2
527	8'-2	9'-8
528	6'-11	7'-4
529	5'-8	6'-2
530	4'-5	4'-11
531	3'-2	3'-8

SIZE & MARK	X	LENGTH
569	3'-10	13'-10
570	5'-5	13'-0
571	5'-1	12'-4
572	4'-6	11'-2
573	3'-11	10'-0
574	3'-4	8'-10
575	2'-9	7'-8
576	2'-3	6'-6
577	1'-7	5'-4

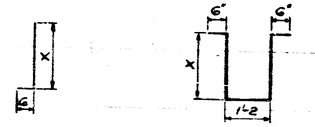
COUNTERFORT B



SIZE & MARK	X	LENGTH
518	2'-11	3'-5
519	11'-4	11'-10
520	8'-8	9'-2
521	7'-4	7'-10
522	6'-0	6'-6
523	4'-8	5'-2
524	3'-4	3'-10

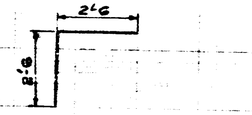
SIZE & MARK	X	LENGTH
556	6'-10	15'-10
557	6'-6	15'-2
558	6'-0	14'-2
559	5'-8	13'-6
560	5'-4	12'-10
561	5'-0	12'-2
562	4'-6	11'-2
563	4'-0	10'-2
564	3'-6	9'-2
565	3'-11	8'-0
566	2'-5	7'-0
567	1'-11	6'-0
568	1'-5	5'-0

COUNTERFORT D

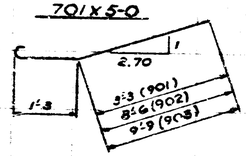


SIZE & MARK	X	LENGTH
532	10'-6	11'-0
533	8'-0	8'-6
534	5'-6	6'-0
535	3'-0	3'-6

SIZE & MARK	X	LENGTH
578	5'-2	12'-6
579	4'-7	11'-4
580	4'-0	10'-2
581	3'-5	9'-0
582	2'-10	7'-10
583	2'-3	6'-8
584	1'-8	5'-6

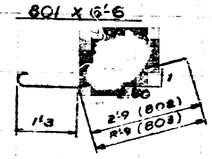


701 X 5'-0

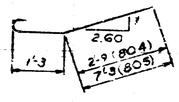


901 X 5'-9
902 X 11'-0
903 X 12'-3

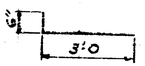
801 X 6'-6



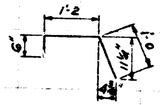
802 X 5'-1
809 X 11'-1



804 X 5'-1
805 X 2'-7



501 X 3'-6



510 X 2'-8

BILL OF MATERIALS

REINFORCING STEEL

SIZE & MARK	NO OF BARS	LENGTH	WEIGHT (LBS.)
501	36	3'-9	
502	12	11'-0	
503	12	12'-3	
#5	12	15'-9	
#5	12	16'-6	
#5	12	12'-6	
	Total	#5	3601
801	229	6'-6	
802	12	5'-1	
803	12	11'-1	
804	9	5'-1	
805	9	9'-9	
#6	6	40'-0	
6	7	35'-6	
6	7	33'-0	
6	8	33'-9	
6	1	29'-0	
6	1	29'-6	
6	4	29'-0	
6	9	28'-6	
6	6	27'-9	
6	8	27'-0	
6	6	26'-3	
6	6	25'-0	
6	6	24'-0	
6	4	23'-0	
6	8	22'-6	
6	3	21'-6	
6	9	20'-0	
6	1	19'-0	
6	8	18'-0	
6	1	17'-0	
6	8	16'-0	
6	12	15'-3	
6	12	14'-3	
6	11	13'-3	
6	3	11'-3	
6	6	11'-0	
	Total	#6	13505
701	60	5'-0	
#7	4	35'-9	
#7	16	35'-6	
#7	16	35'-0	
#7	1	34'-0	
#7	41	32'-0	
#7	1	30'-0	
#7	2	28'-0	
#7	27	27'-0	
#7	16	27'-0	
#7	1	26'-0	
#7	11	25'-0	
#7	3	24'-0	
#7	10	23'-0	
#7	1	22'-0	
#7	26	20'-0	
#7	3	20'-0	
#7	1	19'-0	
#7	4	18'-0	
#7	1	17'-0	
#7	19	16'-0	
#7	1	15'-0	
#7	6	14'-9	
#7	11	14'-0	
#7	3	13'-6	
#7	3	12'-0	
#7	7	11'-3	
#7	1	10'-9	
#7	1	10'-6	
#7	1	8'-0	
	Total	#7	13375

REINFORCING STEEL

SIZE & MARK	NO OF BARS	LENGTH	WEIGHT (LBS.)
301	182	3'-6	
510	24	2'-0	
511	12	3'-5	
GEO. 8 (1 thru 5 #7			
Total Length		290'-0	
518	12	3'-5	
GEO. 8 (1 thru 5 #8			
Total Length		312'-6	
Tot. GEO. 8		584	
Total Length		400'-0	
#5	3	35'-6	
#5	3	33'-9	
#5	3	27'-0	
#5	3	26'-0	
#5	3	22'-6	
#5	2	21'-9	
#5	16	21'-0	
#5	10	20'-0	
#5	6	19'-9	
#5	10	19'-0	
#5	6	18'-9	
#5	10	18'-3	
#5	6	17'-9	
#5	16	17'-3	
#5	16	16'-3	
#5	16	15'-6	
#5	6	15'-3	
#5	16	14'-9	
#5	16	14'-6	
#5	10	13'-6	
#5	6	13'-0	
#5	16	12'-9	
#5	6	12'-3	
#5	16	12'-0	
#5	6	11'-9	
#5	16	9'-0	
#5	16	9'-3	
#5	16	9'-0	
#5	18	8'-3	
#5	18	7'-6	
#5	18	7'-0	
#5	18	6'-9	
#5	18	6'-4	
Total	#5	8794	
Total Steel		39,075	

CONCRETE

Class A

Footing	6.1 Cu. Yds.
Pour #1	14.7 Cu. Yds.
Pour #2	21.1 Cu. Yds.
Pour #3	12.4 Cu. Yds.
Pour #4	19.8 Cu. Yds.
Pour #5	20.7 Cu. Yds.
Pour #6	14.3 Cu. Yds.
Total Class 'A'	200.4 Cu. Yds.

NOTE:- See Bridge Std. C. for Reinforcing Bar Notes.

DESIGNED J.O. CK'D S.P.
DRAWN R.M.N. CK'D J.O.
TRACED CK'D

RETAINING WALL 2A DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE DATE:- MAY 14, 1971

RECOMMENDED FOR APPROVAL:- E.W. Walters

DRAWING:- C7 OF 7
PROJECT:- I-70-3(65) 77
CONTRACT NO. B-7824
BRIDGE FILE:- I-70-77-2386

E.W. WALTERS REGISTERED NO. 7059 STATE OF INDIANA PROFESSIONAL ENGINEER

STRUCTURE QUANTITIES

ITEM	CONCRETE CLASS "A" Cu. Yds.	CONCRETE CLASS "B" Cu. Yds.	RAILING CONCRETE CLASS A LIN. FT.	REINF. STEEL TOTAL LBS.	STRUCT. STEEL LBS.	ANCHOR PLATES MK-AP3 LBS.	ANCHOR PLATES MK-AP4 EACH	ANCHOR PLATES MK-AP5 EACH	PILES UNTREATED TIMBER LIN. FT.	PILES TREATED TIMBER LIN. FT.	PILES STEEL ENCASED CONC. LIN. FT.	PILES STEEL H SEAMLESS LIN. FT.	CAST IRON LBS.	RAILING TYPE 7 OR E LIN. FT.	RAILING TYPE 5 OR C LIN. FT.	RAILING 2" STEEL CONDUIT LIN. FT.	SEAMLESS OR WELDED STEEL 6" PIPE 8" LIN. FT.	U-ANCHORS MK-UA1 EACH	BRONZE PLS LBS.	ANCHOR BOLTS AR 22 EACH
SUBSTRUCTURE																				
Bent No. 27 W.B.	25.1			2421				9			120									
Bent No. 27 E.B.																				
Bent No. 28 W.B.	29.8			4410				9			360									
Bent No. 28 E.B.	31.8			4643				9			360									
Bent No. 29 W.B.	41.2			2197.5				9			960									
Bent No. 29 E.B.	29.4			4807.1							1080									
Bent No. 30 W.B.	67.3			3146			19				770									
Bent No. 30 E.B.	57.1			3153			20				770									
Bent No. 31 W.B.	65.1			4554							360									
Bent No. 31 E.B.	64.1			3152							720									
Bent No. 32 W.B.	67.5			4643.1				12			720									
Bent No. 32 E.B.	64.6			2933				12			720									
Bent No. 33 W.B.	45.3			2045.1				12			640									
Bent No. 33 E.B.	48.3			2369.5				13			720									
Bent No. 34 W.B.	50.3			2369.5				12			720									
Bent No. 34 E.B.	54.8			7761		15					960									
Bent No. 35 E.B.	74.5		184	14475		19					1080									
SUPERSTRUCTURE																				
Spans A-A, B-B & C-C																				
Westbound	543.4				560,000#															
Eastbound	561.2			151,795	469,870#															
				164,875	482,655															
					544,000															
Spans D-D, E-E, F-F & G-G																				
Westbound																				
Eastbound	767.6																			
	776.6			221,893	667,300															
				217,304	657,500															
					2,774,900															
** RETAINING WALL A-1		602.2	490.5	177,900																
SPLICE BARS																				
Bridge Steel for Approach Structures																				
Bridge Steel for Main Bridge Superstructure																				
Bridge Steel for Sub & Pier Units																				
TOTALS	5,148	602.2	674	918,035	Estimated 2,774,900	25	110	96			15,120		2160	607	1210	1286	240	75	28	3700	24

APPROACH STRUCTURES

STRUCT. NO.	LOCATION	SIZE	DESCRIPTION KIND	LENGTH IN STRUCTS. LIN. FT.	CL. A CONC. IN STRUCTS. CU. YDS.	REINF. STEEL LBS.	CAST IRON LBS.	REMARKS
28	292+60 (I-70) Rt.		Bent R.C.C.S. Pile					Drain "B" Borrow
14	292+65 (I-70) Rt.		D-6 Inlet	50				12"ø F.B.C.C.S. Pipe (16ga)
15	293+55 (I-70) Rt.		D-6 Inlet	60				12"ø F.B.C.C.S. Pipe (16ga)
16	294+45 (I-70) Rt.		D-6 Inlet	60				12"ø F.B.C.C.S. Pipe (16ga) Cont. to 96"ø Storm Sewer
17	295+35 (I-70) Rt.		E-7 Inlet	95				12"ø F.B.C.C.S. Pipe (16ga) Cont. to 96"ø Storm Sewer
18	296+25 (I-70) Rt.		E-7 Inlet	60				12"ø F.B.C.C.S. Pipe (16ga)
19	297+15 (I-70) Rt.		E-7 Inlet	25				12"ø F.B.C.C.S. Pipe (16ga)
20	297+75 (I-70) Rt.		E-7 Inlet	50				96"ø R.C. Pipe, Class III "A" Bedding
21	298+06 (ICE W A) 65 Rt.		Manhole - Type G	320				12"ø Circular L. Pipe
22	290+36 (I-70) Rt.		E-7 Curb Inlet	146				12"ø Group L. Pipe
23	298+60 (ICE W A) 65 Rt.		E-7 Curb Inlet	100				Remove 30"ø V.C. San Sewer & Replace
301	298+60 (I-70)	2"ø	E.S.V. Pipe Class B Bedding	200				30"ø Brick Sewer: Encased or replaced w/ 30"ø R.C.C. Pipe, Class III "B" Bedding
302	299+60 (I-70)	30"ø	R.C.C. Pipe or End Segment	TO				Remove Existing Manhole & seal existing 12" Pipe. Fill with "B" Borrow.
501	283+20 (I-70) Rt.		Salvage I.S.D. Casting					Use Existing Manhole for 24"ø & seal existing pipe to the south
502	286+80 (ICE W A) Lt.		Catch Basin - Type S-14					Remove Existing Inlet & Construct C.B. with Hood over existing 12" Pipe
503	287+85 (ICE W A) Lt.		Salvage I.S.D. Casting					Remove existing manhole, seal existing pipes & fill with B Borrow.
504	288+75 (I-70) Lt.		Salvage I.S.D. Casting					36" R.C. Pipe Class III
22	290+36 (I-70) Rt.		Manhole - Type G	600				
			TOTALS					

Total of Reinforcing Steel carried to "Structure Quantities"

BARRICADES, BARRIERS, TRAFFIC SIGNS AND LIGHTS

ITEM	UNIT	QUANTITY	ASSEMBLY	BRIDGE FILE	TOTALS
CONSTR. SIGN (TYPE A)	Each	2	Signs XW-1 Signs XW-2 Signs XM-5 Signs W-4B w/ SMALOWER		
STANDARD BARRICADES (TYPE A)	Each	2	Torches Barricades (Type A) Signs M-20A Lanterns Barricades (Type B) Signs XM-1 Lanterns		
STANDARD BARRICADES (TYPE B)	Each	-			
STANDARD SIGNS	Each		Signs W-11 Signs W-35A Torches		
Reflectorized Panels	Each	2	* Suitable Barriers		
CONSTRUCTION IDENTIFICATION SIGNS	Each		* Lanterns or Torches * Signs XM-6 * Signs XM-7 * Signs XM-8		

BILL OF SPLICE BARS

REINFORCING STEEL

SIZE	LENGTH LIN. FT.	WEIGHT EACH	BRIDGE FILE NO. PIECES	WEIGHT LBS.	NO. PIECES	WEIGHT LBS.	NO. PIECES	WEIGHT LBS.	TOTAL WEIGHT LBS.
#11	1'-0"	58.4							
#10	0'-8"	45.2							
# 9	8'-6"	32.3							
# 8	8'-9"	23.4							
# 7	8'-0"	18.6							
# 6	7'-6"	11.3							
# 5	6'-9"	7.0							
# 4	6'-0"	4.0							
# 3	5'-6"	2.1							
TOTAL SPLICE BARS									

NOTE: For Test Bar Samples see Bridge Standard C1.

SUMMARY

ITEM	DESCRIPTION	UNIT	QUANTITIES BRIDGE FILE	TOTALS
1	Class F Concrete	Cu. Yds.	5224.9	
2	Class D Concrete	Cu. Yds.	239.2	
3	Class E Concrete above Footings	Cu. Yds.	602.2	
4	Class E Concrete in Footings	Cu. Yds.	417.48	
5	Railing Concrete	Cu. Yds.		
6	Reinforcing Steel	Lbs.	1107656	
7	Structural Steel (SPANS A-A, F-B, C-C)	Lump Sum	1	
8	Anchor Plates (MK-AP3)	Each	25	
9	Cast Iron	Lbs.	2160	
10	Railing (Type 5 or C)	Lin. Ft.	1210	
11	Untreated Timber Piles Furnished	Lin. Ft.		
12	Untreated Timber Piles Driven	Lin. Ft.		
13	Treated Timber Piles Furnished	Lin. Ft.		
14	Treated Timber Piles Driven	Lin. Ft.		
15	Steel Pile Shells Furnished	Lin. Ft.		
16	Steel Pile Shells Driven	Lin. Ft.		
17	Steel H Piles Furnished	Lin. Ft.		
18	Steel H Piles Driven	Lin. Ft.		
19	Furnishing Equipment for Driving Piles	Lump Sum	1	
20	Wet Excavation	Cu. Yds.		
21	Foundation Excavation Unclassified	Cu. Yds.		
22	Roadway Excavation	Cu. Yds.		
23	Common Excavation	Cu. Yds.	100	
24	Special Borrow	Cu. Yds.	56048	
25	Grade B Special Borrow	Cu. Yds.	109960	
26	Sodding	Sq. Yds.	1124	
27	Mulched Seeding	Sq. Yds.		
28	Reinforced Cement Concrete Pavement	Sq. Yds.		
29	Compacted Aggregate Base (Type)	Tons		
30	Compacted Aggregate Shoulder	Tons		
31	Subbase	Cu. Yds.		
32	Removal Present Structure	Lump Sum		
33	Temporary Bridge and Approaches	Lump Sum		
34	Typing Sign Standards	Each		
35	Standard Barricades (Type A)	Each		
36	Standard Barricades (Type B)	Each		
37	Standard Signs	Each		
38	R/W Markers	Each		
39	Slopewall	Sq. Yds.	1208	
40	Riprap	Sq. Yds.		
41	1 3/4" Expansion Joint Armor (Type)	Lin. Ft.		
42	1 1/2" Expansion Joint Armor (Type)	Lin. Ft.		
43	1 1/4" Expansion Joint (Type)	Lin. Ft.		
44	1 1/4" Expansion Joint (Type)	Lin. Ft.		
45	1 1/4" Expansion Joint (Type)	Lin. Ft.		
46	Straight Beam Guard Rail	Lin. Ft.		
47	Class D Concrete in Structures	Cu. Yds.		
48	Anchor Plates MK-AP4	Each	110	
49	Anchor Plates MK-AP5	Each	36	
50	Steel Pile Shells Fur. & Driven (14"ø)	Lin. Ft.	1735	
51	Railing Type 7 or E	Lin. Ft.	607	
52	2"ø Steel Conduit	Lin. Ft.	1236	
53	6"ø Welded or Seamless Steel Pipe	Lump Sum	1	
54	8"ø Welded or Seamless Steel Pipe	Lump Sum	1	
55	U-Anchors MK-UA	Each	28	
56	Bronze Bearing Plates	Lbs.	3700	
57	96"ø Pipe F.B.C.C.S. Pipe (16ga)	Lin. Ft.	250	
58	12"ø Group L Pipe	Lin. Ft.	250	
59	12"ø Group L Pipe	Lin. Ft.	246	
60	E-7 Inlet	Each	3	
61	F-7 Inlet	Each	1	
62	D-6 Inlet	Each	2	
63	E-7 Catch Basin	Each	2	
64	Manhole Type G	Each	1	
65	96"ø Group L Pipe	Lin. Ft.	970	
66	24" Group L Pipe	Lin. Ft.	200	
67	30" Group L Pipe or 30" Brk. Sewer Encase.	Lin. Ft.	76	
68	Structural Steel Spans D-D, thru. G-G	Lump Sum	1	
69	Protection of RR During Sewer Work	Lump Sum	1	
70	Overhead Sign Type A	Each	2	
71	Paved Side Ditch Type A	Lin. Ft.	396	
72	Anchor Bolts AR 22	Each	24	
73				
74				
75				
76				
77				

BRIDGES OVER 20' SPAN

FED. ROAD PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IND.	I-70-5(77) 6477	1970	122	178

SEE SHEET 124 FOR FILE TO BE USED FOR COMBINED SUMMARY

SUMMARY
INDIANA STATE HIGHWAY COMMISSION

SUBMITTED FOR APPROVAL: July 3, 1969

PROJECT: I-70-5(77)227
BRIDGE CONTRACT NO. 69-7924
BRIDGE FILE: I-70-77-2384

No. 3613 STATE OF INDIANA REGISTERED ENGINEER

END STR

Weight of spirals includes weight of 1 1/2 extra turns top and bottom. Spacers and 1 1/2 turns at tops included in cost of spiral.

* Not A Pay Item. Place as directed by the Engineer. "W-35A" safe speed to be determined by the Engineer. When sign standards are used in unpaved areas the contractor may use two posts set (3) three feet in the ground. Directional, advisory or warning signs shall be right hand or left hand as the location of the sign requires.

** Note: Location - 298+05.18 (ICE W A) to 300+6[illegible] (ICE W A)
Length - 392 Lin. Ft.

** The weight of structural steel is approximate only, and it shall be the contractors responsibility to determine the weight on which he bases his bid.

Rev. 12-1-70 Conn. 2 of 34 sh.
Rev. 1-14-71 Str. No. 29 & 29
Rev. 3-10-71 Str. Nos. (Quant.)

DRAWN BY: RLG DATE: MAY 27, 1969
COMPARED: JLT DATE: APRIL
TRACED: W.L.H. DATE:

Rev. 12-1-70 RLG (Add. Bridge No. 29)